

Evaluation of Contract Administration For Public Projects in Saudi Arabia

by

Khaled A. Al-Gunaiyan

A Thesis Presented to the

FACULTY OF THE COLLEGE OF GRADUATE STUDIES

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

DHAHRAN, SAUDI ARABIA

In Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE

In

CONSTRUCTION ENGINEERING AND MANAGEMENT

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**Evaluation of contract administration for public projects in
Saudi Arabia**

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King Fahd University of Petroleum and Minerals (Saudi Arabia), 1992

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KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS

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This thesis, written by KHALED ABDULMOHSEN AL-GUNAIYAN under the direction of his Thesis Advisor and approved by his Thesis Committee, has been presented to and accepted by the Dean of the College of Graduate Studies, in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in CONSTRUCTION ENGINEERING AND MANAGEMENT.

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Member

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Dean, College of Graduate Studies

Date



I dedicate this work to my beloved wife and children for their continuous support and encouragement.

ACKNOWLEDGEMENTS

Many people have contributed towards transferring ideas and information into this finished study. I wish to take this opportunity to acknowledge these people and express my gratitude for their assistance.

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THESIS ABSTRACT

FULL NAME OF STUDENT : KHALED ABDUL-MOHSEN IBRAHIM AL-GUNAIYAN

TITLE OF STUDY : EVALUATION OF CONTRACT ADMINISTRATION FOR PUBLIC PROJECTS IN SAUDI ARABIA

MAJOR FIELD : CONSTRUCTION ENGINEERING & MANAGEMENT

DATE OF DEGREE : NOVEMBER 16, 1992

The aims of the study were to evaluate the Saudi Government Procurement Laws and Regulations (GPLR) articles that constitute construction contracts, and to adopt measures that assist in effectively managing construction contracts of public projects. Consequently, a questionnaire was developed to measure the opinion of the Public Owners towards the current and proposed practice statements that cover the objectives of the study. It was divided into three parts namely: Bidding phase, Construction phase, and Contract Administration. The questionnaires were mailed to one hundred (100) Government Departments and Organizations that represent the population of the study for an overall response of (80%). Subsequently, the data were analyzed by computer.

The survey results revealed that the proposed practices of prebid qualification, prebid conference, contract award, preconstruction conference, labor and material payment bond, site condition, and change orders have received dominant support. Likewise, measures that are related to safety, standard Construction Contract Administration Manual, GPLR updating, QC/QA program and Saudization have received the highest ranks (Agreement Index) respectively. Finally, recommendations were drawn, and one of the most significant recommendation - among others - was that Legislators should consider some of the results obtained in the study for incorporation to GPLR and/or standard public works contract.

**MASTER OF SCIENCE DEGREE
KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DHAHRAN, SAUDI ARABIA.**

بسم الله الرحمن الرحيم

خلاصة

إسم الطالب : خالد بن عبد المصن بن إبراهيم القنيان

عنوان الدراسة : تقويم إدارة عقود المشاريع العامة
في المملكة العربية السعودية

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تهدف هذه الدراسة إلى تقويم مواد نظام تأمين مخترجات الحكومة ولائحته التنفيذية ذات العلاقة بأعمال التشييد ، كما تهدف إلى تبني إجراءات فعالة تساعد على إدارة عقود المشاريع العامة في المملكة .

وقد تم جمع المعلومات بواسطة تعميم استبانة قسمت إلى ثلاثة أجزاء تتفق مع أهداف البحث وهي مرحلة المنافسة ومرحلة تنفيذ العقد وإدارة العقد ، وشارك فيها مدراء مائة إدارة حكومية معنية بأرائهم حول الممارسات الحالية والمقترحة وذلك من واقع تعاملهم مع عقود الاشتغال العامة في جوانبها النظامية والإجرائية والتنفيذية ، وكانت نسبة المجيبين عالية (٨٠٪) تم تحليلها لاحقاً بالحاسب الآلي .

وأظهرت نتائج الدراسة تأييد المشاركين للممارسات المقترحة في : تاهيل المتنافسين وإتباع ما قبل تقديم العروض وترسية العقد وإتباع ما قبل التنفيذ وفهم المقدرة على الدفع للمواد والعمالة ومعاينة الموقع وأوامر التنفيذ . كما أكدت النتائج قوة التأييد للإجراءات المقترحة ذات العلاقة بالسلامة والدليل النموذجي لإدارة العقود والتحديث الدوري لكتيب النظام واللائحة وبرنامج الجودة وسعودة إدارة المقاول ، وذلك على التوالي .

وفي ختام الرسالة قدمت بعض التوميات من أهمها : إحاطة وزارة المالية والاقتصاد الوطني بنتائج الدراسة ليتم الاستفادة منها بعد مراجعتها من قبل المختصين بذلك .

درجة الماجستير في العلوم
جامعة الملك فهد للبترول والمعادن
الظهران / المملكة العربية السعودية

1. INTRODUCTION

1.1 BACKGROUND

Public Tenders in the Kingdom are subjected to the Government Procurement Laws and Regulations (GPLR) that is securing, regulating and controlling all purchases and procurement of Government Services, supplies and implementing its projects and works. It contains articles that govern the procurement process and forms the framework of construction contract conditions and administration. These articles had been published in 1977 during the construction boom period, when developing the basic infrastructure was needed urgently and the cost of construction had not been given top priority. Thenceforth, revision was made rarely and when a problem arose, the Ministry of Finance and National Economy circular - in letter form - clarified the vagueness, in accordance to the corresponding rule article, and sent a copy of the clarification to all concerned government agencies.

The preliminary investigations revealed the following:-

1. There seems to be no major revision in the GPLR made since its issuance in 1977.
2. There is no systematical procedure for updating the GPLR.

3. There is no strict enforcement of the GPLR articles during contract administration.
4. GPLR articles have not been subjected to substantial evaluation.

1.2 OBJECTIVES OF THE STUDY

The objectives of this research are to:

1. Study and evaluate the Saudi Government Procurement Laws and Regulations (GPLR) articles that constitute construction contracts.
2. Introduce and adopt measures that assist in effectively managing construction contracts of public projects.

1.3 SCOPE AND LIMITATIONS

This study is limited to some of the GPLR articles that are related to construction contracts. The treatment is limited to the Owner's point of view. It is also restricted to fixed-price (lump-sum) and unit price contracts. It deals with the administrative phases and aspects of the contract.

1.4 SIGNIFICANCE OF THE STUDY

Cost and quality of the constructed project are now receiving much more attention than in the past three development plans, and both have become a major part of the fourth and fifth development plan objectives. This study is designed to serve as a practical

guide to contracting with Government and endeavors to simplify and condense the image of Government rules and regulations by addressing and evaluating some of the government regulation (GPLR) articles that relate to construction contracting by pinpointing the weaknesses and obstructions that might lead to disputable bidding process and execution of the contract. Such a study will contribute to the development of laws and regulations concerning construction works and activities.

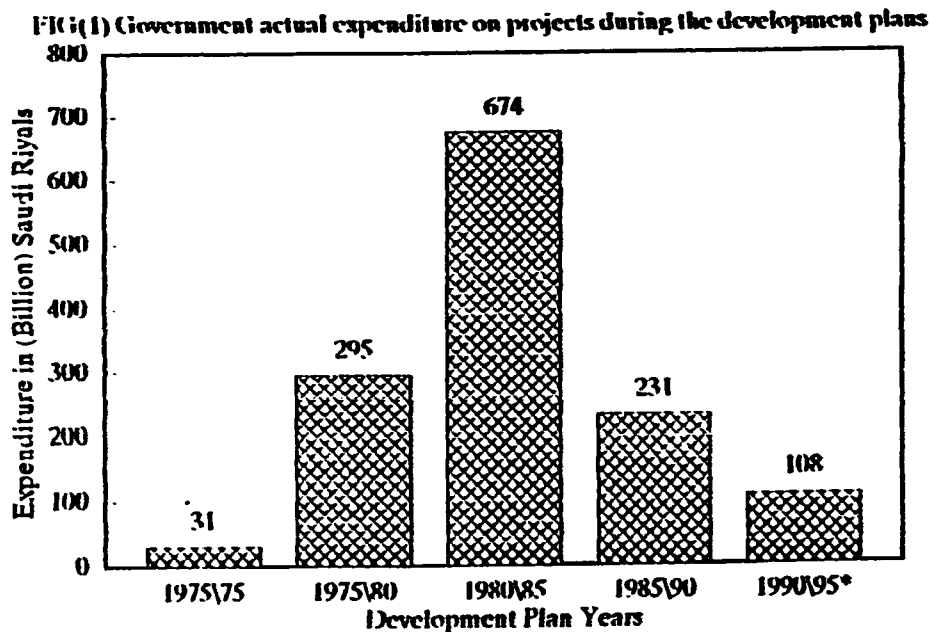
1.5 THESIS OVERVIEW

The thesis is divided into five chapters. An introduction where background, objectives of the study, scope and limitations, and significance of the study are introduced and discussed in chapter one. Literature related to evaluation of laws and regulations constituting construction contract administration for public projects abroad and locally from tendering stage till contract close-out is reviewed in chapter two. Survey methodology, where a survey of the current practice and the proposed modification and / or addition of new articles in the GPLR is performed through a designed questionnaire, the Pilot Study, population, and data collection is found in chapter three. The data gathered is presented, analyzed and discussed in chapter four. Chapter five contains the conclusions and recommendations.

2. LITERATURE REVIEW

2.1 PUBLIC SPENDING ON CONSTRUCTION

During the last two decades, the Construction Industry has been a major force in the development of the economy in Saudi Arabia. During the first (1970-75), the second (1975-80), the third (1980-85), and the fourth (1985-90) development plans, the construction sector received 48.8% (SR-31 billions), 48.7% (SR-295 billions), 54.9% (SR-674 billions), and 28.2% (SR-231 billions) respectively, of the total Government actual expenditures (FIG. 1) (MOP 1970-90).



The mentioned development plans were aimed on developing the basic infrastructure with gradual shift towards the use of local contractors; encouraging and strengthening the Saudization of the construction industry by some specific measures to back the "Saudi Contractor" by the Government. Some of these measures are:

- a. The thirty percent rule (30%) that requires the Foreign contractor to assign not less than (30%) of the works to a Saudi contractor;
- b. Supplies and services are to be procured from Saudi Arabia;
- c. Open tendering;
- d. Division of large contracts into smaller parcels;
- e. Revision and extension of the contractor classification program;
- f. Improving the quality of construction and maintenance;
- g. Increasing the productivity and capabilities of contractors; and
- h. Reducing the cost of construction and related maintenance.

In the present fifth development plan (1990-95), the Government is expected to spend on public construction projects nearly SR-108.6 billions which is equal to 30.4% of the total Government spending (MOP 1990). Objectives have been set by Government to improve the Saudi construction industry during the fifth plan. They are:-

- To revive construction sector activity in order to augment its contribution to National income;
- To increase the participation of Saudi Contractors and Engineering Consulting Offices in implementing construction and maintenance projects;
- To promote the development of export capacity in the building materials industry and to ensure that Government and private projects use domestic building materials.

Also, Government has set issues that will need to be addressed during the fifth plan which include:-

- . Encouragement of Exports : Activities of Saudi Construction Companies need to be expanded into International markets.
- . Quality Standards: Specifications will have to be completed, and standards established for the construction industry.
- . Maintenance of Completed Projects: Emphasis should be focused on stimulating the private sector's role in construction maintenance.

Finally, the policies that will contribute towards the achievement of the development objectives for the construction sector during the fifth plan are:-

- Streamline administrative procedures and develop laws and regulations concerning construction works and activities.

- Issue and enforce unified materials standards; develop and enforce regulations for different types of building; assess management and operation costs; undertake laboratory tests of building material and publish the results;
- Upgrade the operations of the central Office for storing public construction document and data for use in studies and applied research;
- Encourage greater cooperation between the public and private sectors in financing building, operating and maintaining major projects;
- Assist Saudi contractors to expand their activities of both National and International levels.

2.2 PUBLIC TENDERING ON CONSTRUCTION

GPLR includes 14 Articles establishing the basic rules for Government tendering that was issued by Royal Decree No. M/14, dated March 27, 1977 and 40 Articles that was issued by Ministry of Finance Ministerial Resolution No. 2131/97, dated April 23, 1977, explaining in detail the basic rules and setting procedures for Government purchasing as well as all subsequent directives and explanatory circulars issued or to be issued by the concerned authorities. All such Regulations, rules for implementation, directives and circulars are considered as an integral part of the contract and have Precedence over the tender and Project

Documents (GPLR 1985).

Open competitive tendering is a widely used method of contractor selection and contract formation for public construction projects throughout Saudi Arabia. Limited (selective tendering) invitation are used only when urgent cases and limited time projects occurred.

A fixed-price (lump-sum) contract is the most basic and widely used type of formally advertised Public Contract in Saudi Arabia, with a Bill of Quantity (B.O.Q) at unit prices inserted for the various items. Prices are required solely for the purpose of facilitating the comparison of the various tenders received and the payment to be made - according to the actual quantities carried out - to the contractor whose tender is accepted and is not the actual sum which is to be paid to the contractor for execution of the work.

The Saudi Council of Ministers approved the issuance of the first standard contract form "Standard Public Works Contract" - Resolution No.136 dated February 1, 1988 which consists of two parts; the first contains the principal document of the contract which governed by eight Articles that spells out the purpose of the contract, contract documents, value, durations, guarantee and payment in addition to the agreement. The second part consists of 61 General Conditions Articles.

2.3 TENDERING STAGE

2.3.1 OVERVIEW

An invitation to tender marks the first step in construction contract tendering procedures, which is normally a brief one to two pages document summarizing key information about the project, tendering procedures, construction procedures, announcing the bidding schedule for the project, and giving sufficient information for prospective bidders. These can be achieved through two methods namely: selective or competitive tendering.

Contract award marks the final step in the tendering stage. The award of a contract to a bidder based on lowest evaluated price alone can be false economy if there is subsequent default, delayed performance, or other unsatisfactory performance resulting in additional costs. While it is important that a public agency procure construction at a low price, this does not require an award to any contractor solely because it submits the lowest bid (Manual 1990).

The phrase "responsible bidder" refers to something more than just financial capacity of the bidder. Such factors as competence, judgment, skill, and integrity play important parts in the overall determination. The owner should determine that the bidder (Manual 1990):

- has adequate financial resources, or the ability to secure such resources;

- has the necessary experience, organization and technical qualifications, and has or can acquire, the necessary equipment to perform the proposed contract;
- is able to comply with the required performance schedule or completion date, taking into account all existing commitments;
- has a satisfactory record of performance, integrity, judgment and skills.

In the Kingdom, GPLR (Article 2A of the Law) requires that an announcement concerning bidding for a project be published in the Official Saudi Gazette (UM ALQURA) and all local daily newspapers at least twice and not less than one month prior to opening date in which this announcement constitutes the advertisement or legal notice to bidders that include:

- Name and location of the project.
- Brief description of the work.
- Time and place for receiving bids and opening.
- Documents fee.
- Bid Bond (Bid security).
- Location where documents are procured (purchased) for bidding purposes..
- Statement relating to announcer right of acceptance or rejection of bids.

GPLR (Article 11) authorized the Minister or head of organi-

zation to form bids opening and bids inspection committees of four members including a head for each committee. It requires that the bids are to be opened on the date, time, and place specified in the advertisement and to be opened publicly. Late bids should be treated as though they were never received.

The bids evaluating committee is to proceed immediately after the bids opening committee as their recommendation of whom to award the contract is based on the best bid financial wise and technical expertise (GPLR Article 16).

This is not the case, according to the Ministry of Finance. The machinery of the tender invitation necessitates the award of the contract to the lowest and best tender; therefore, the Government authority must award the contract to the lowest tender unless it is revealed to it that such tender is unreasonably low and may result in failure to execute the project; this is the case where it is revealed that the lowest tender is not studied and is less than the estimates fixed for the project by up to thirty percent (Wisner 1987). Also, MODA (1989) study revealed that in the Kingdom, bids are evaluated with the preference to the prices then technical wise that usually lead to the award to the lowest bidder.

In the Kingdom, the main activities of tendering stage are defined and discussed here or in chapter four; and graphically depicted in figure 2.

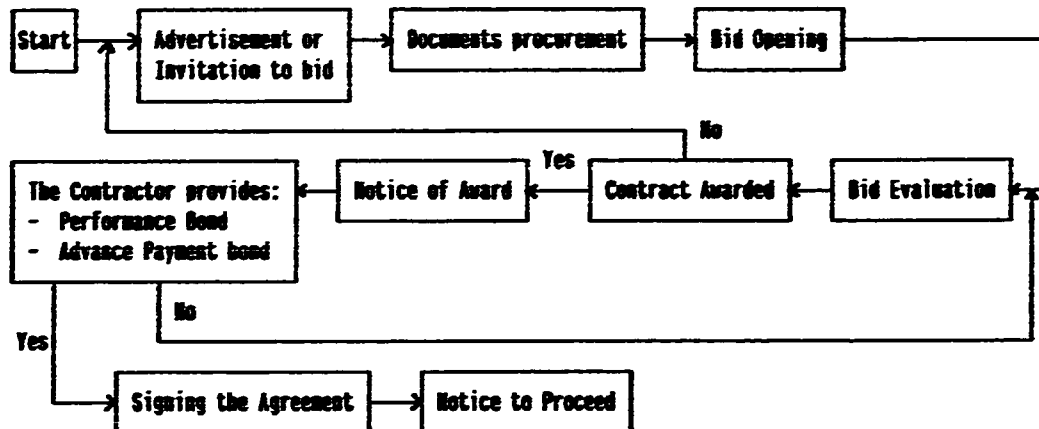


FIG. 2 THE MAIN ACTIVITIES OF TENDERING STAGE IN THE KINGDOM

2.3.2 BONDS

Bonds are generally used in construction to protect the Owner if the contractor fails to fulfill obligations under the contract or under bidding procedures. Bonds used and discussed here include: bid bond, performance bond, and labor and material payment bond.

2.3.2.1 BID BOND (INITIAL GUARANTEE)

The tender usually accompanied by an initial guarantee (security) or bid bond and the sum of money is generally a percentage of the value of tender. When a contract has been signed, bonds are returned to unsuccessful tenderers (Totterdill 1991). The Owner retains the initial bond (security) until such time as the contract is signed and satisfactory contract bonds are provided. Having a bid bond will help to defray the expenses of going to the second lowest bidder or readvertising if a bidder fails to sign the

contract (Clough 1981). Requiring such bond is an effective method to be used to screen out unqualified contractors (Peirce 1988).

The American Institute of Architects (AIA Document A310) illustrates the usual style and content of a bid bond. The minimum bid security required by the instruction to bidders is stated as a given percentage (5%) of the maximum bid price. A bid bond of 5 or 10 percent is a common requirement in America, although a larger percentage (20%) is used in many public projects (Clough 1981). Edward R. Fisk (1982) preferred a bid bond of 10 percent of the bid price for the project.

In Europe, the contract is awarded to selected contractors. Therefore, a bid bond is not required whereas many other countries require by law all bidders, for a public construction contract that is publicly advertised, to deposit a bid bond in the sum of a varied percentage of the bidder's estimate of contract amount. A typical bid bond percentage of the bid price used in some countries are:

- U.S.A. (10%) Ref. (Fisk 1982).
- Canada (10%) Ref. (Barton and Ungar 1987).
- Japan (5%) Ref. (Toyama, Nakatani and Mattei 1987).
- Egypt (1%) Ref. (Tender Law # 9 1983).

In the Kingdom, GPLR (Article M/2/D of the law) requires one percent (1%) of the base bid price which seems a very small percentage, relative to the other countries, and is required to remain in

force during the period of validity of the bid. Contractors usually submit a bond slightly higher than that of 1% for not revealing the bid price to the bank of issuance (Aldulaijan 1987).

2.3.2.2 PERFORMANCE AND PAYMENT BONDS

All Government contracts include a requirement for a final guarantee or performance bond which basically guarantees the creditworthiness of the contractor and provides financial protection to the Owner. Coverage of the performance bond is intended to assure the Owner that the project will be completed according to the contract documents without the Owner having to expend more than the contract amount (Hinchey 1986).

There are several widely used forms of performance bonds. The American Institute of Architects (AIA Document A311) published its version, the Surety Association of America publishes another version, and other groups do likewise. The standard form used by Federal Government provides that the bond applies to all contract modifications and that the life of the bond must include all extensions of time and any guarantee period required (Clough 1981). The customary amount of public works on a performance bond is an amount of 100 percent of the contract total sum (Fisk 1982).

Performance bonds are universally required on public projects. The sum of money is generally a percentage of the final contract sum and varies from country to another. A typical performance bond - as a percentage - used abroad are:

- U.S.A. (100%) Ref. (Fisk 1982).
- Europe (10%) Ref. (Porter 1980).
- Japan (10%) Ref. (Toyama, Nakatani & Mattei 1987).
- Kuwait (10%) Ref. (Totterdill 1991).
- Egypt (5%) Ref. (Tender Law # 9 1983).

In the Kingdom, the old Auction and Tender Law (1965) required ten percent (10%) of the contract price as a performance bond. Where the superseded GPLR requires only five percent (5%) or 25% of the contract price, if surety emanates from an Insurance Company, it is to be terminated at the final acceptance date of the project.

From the above mentioned bond percentages, it seems clear that Saudi Arabia requires the least performance bonds or final guarantees among listed nations in case of a bank guarantee; whereas a much higher percentage (25%) is required, if the guarantee is provided by an insurance company. MODA (1989) recommended that a final guarantee (performance bond) should be limited to the (25%) of bid price by an insurance company in order to increase the involvement of such companies in following up and prequalifying contractors financially.

William Van Order Gnichtel (1983) warned contractors about the misunderstood aspects of the performance bank guarantees under Saudi Law where issuing banks in the Kingdom have, in some cases, received demands by Public Owners as much as six months or a year after expiration of a guarantee. He further added that in these

cases, the banks have understandably refused to pay despite repeated demands by the beneficiary, and no untoward legal repercussions followed. However, because of the historical position of certain governmental beneficiaries that, notwithstanding an expiration date, the issuer of a guarantee is not released from liability until the guarantee has been surrendered to the issuer and, in various cases, it has taken six months to a year to retrieve an expired guarantee from the governmental beneficiary (Public Owners).

While a performance bond is stipulated for acceptable execution of the work for an adequate amount, another bond is required to protect persons or companies supplying labor and material for the work called payment bond (Nicholson 1988).

A typical payment bond will bind both the general contractor and surety, jointly and severally, for the amount of the contract in the bond. (AIA Document A311 offers a good example of frequently used payment and performance bond forms). While the payment bond nominally runs to the owner, the direct benefit is to labor and material suppliers and subcontractors. When these parties are not paid, they are given direct rights to sue the insurance company (surety) on the bond for payment for labor or materials. The necessity for such bonds on public projects is easily seen in view of the inability of the laborer or material supplier in most states in America to file lien, and foreclose it, against property belonging to the public (Hinchey 1986).

The customary amount of payment bonds is 50 percent of the contract sum. However, the Construction Industry Affairs Committee of Chicago recommends that both the payment and performance bonds be written in the amount of 100 percent of the contract price (Fisk 1982).

It is recommended that separate bonds always be obtained rather than a combination bond covering both payment and performance. The typical combination payment and performance bond will obligate the surety for only one sum of the contract. Each bond given separately will obligate the surety for the entire sum, resulting in the Owner receiving protection in twice the amount of the underlying contract. Insurance companies typically issue separate bonds, each in the full contract amount, for the same premium charged for a combination bond (Hinchey 1986).

2.4 CONSTRUCTION STAGE

2.4.1 PROGRESS PAYMENTS (PARTIAL PAYMENTS)

Payments are programmed usually at a prearranged date each month where the contractor is expected to submit a request for payment for all of the work performed during the proceeding month. All items for which the contractor has claimed payment must be checked prior to forwarding the payment request to the Owner (Fisk 1982). Slow payment by the Owner to the contractor continues to be a serious problem for the construction industry (Clough 1981).

If the organization is borrowing the funds necessary for the project, payment programming becomes even more critical. The financial element must know when funds are needed so that arrangements can be made with the lending institution. Borrowing the funds too early would be an expensive mistake, while waiting too late might result in the prime contractor closing the job because of lack of funds. This could result in a claim which would further increase the cost of the project. Initially, payments are programmed based on the schedule and forecast. As these documents are updated and improved, the schedule of programmed payments should also be updated (Barrie 1981).

In the Kingdom, GPLR Article M/8/B allows the Owner to pay interim payments to the contractor for the executed works by measurements and in accordance with the units prices agreed upon in the Bill of Quantities (BOQ) and on the presentation of invoices duly approved by the Engineer and accepted by the Owner, provided that amounts due to the Owner from the contractor will be deducted therefrom in addition to the percentage deduction against advance payment, if paid to the contract sum.

Payment is the primary obligation of the Owner. Sadly, the recent record of Owners meeting this obligation in a timely manner is dismal reading, and Saudi Arabia is no exception. It is difficult and in the case of Government contracts, practically impossible to enforce the entitlement to timely payment (Jaynes and Ransom 1985). The lengthy delays in payment by the Owner is a very

serious threat to the contractors in the Kingdom (Wisner 1987). Inadequate payment preparation causes several months delay (Moe 1985).

Ian V. Reeves (1985) believed that late payment practice in the Kingdom, being an obvious example that causes the Owner to depart from his obligations under the contract and provision, should be made for the effect of Ramadan and the Hajj. Najem and Abdulatif (1989) survey revealed that 53% of the public Owners respondents believed that public works contractors payments are delayed. The Owner and the contractor participated in such delay; factors that caused the delay are listed depending on their importance:-

- Disobedience of contractual obligations by contractor;
- Crippling and delaying payment by the Owner ; and
- Budgetary or administrative reasons such as:
 - . Inadequate invoice's preparation.
 - . Fiscal year transition period.
 - . Work overload.
 - . Procedural complications.

The study also revealed the consequences of such delays as follows:

- Work execution delay;
- Less quality;
- Work suspension;
- Future high bids as contingencies;

- Claims; and
- Parties mistrust.

Saudi Chamber of Commerce (SCC 1989) paper to Contract Administration Seminar (CAS) mentioned that the delay in contractor monthly payments by the Owner is a major cash flow problem to the contractors which is the root cause of most of the difficulties in the Saudi construction industry. It recommended the following:-

- The Owner should cut back on the amounts paid on requisitions rather than hold up the entire payment; and
- Easing the procedures of processing the contractors monthly payments.

Rebh (1985) supported the idea of cutting back on the amount of the payment, which is overstated, rather than holding up the whole payments.

A measure to achieve compensation for delays in payment was recommended by SCC (1989). Jaynes and Ransom (1985) also recommended such measure by providing in the payment clause that the Owner will reimburse the contractor for any extra expense caused by delay in payment. This includes the cost of any borrowings by the contractor to fund cash flow requirements for the contract, and following up such contractual coverage by establishing a separate loan account for funding the contract at the time that payments are delayed, so that documentation can be produced to support any request for reimbursement.

2.4.2 ADVANCE PAYMENT

Advance payment or so called "Mobilization Costs" are those initial expenditures that a contractor is obligated to make before qualifying for progress payments (Fisk 1982).

Those who don't support paying such payment to the contractor naively suggest that it is solely the contractor's problem to have cash-flow in advance. They fail to realize that nothing that the contractor is obligated to do on the project is going to be provided for free and failure to provide an advance payment for mobilization simply forces the contractor to prorate its cost over all of the earliest items of construction to get as early a return on his investment as possible. Unfortunately, this also means that the bids will be unbalanced to show a disproportionately high unit cost on many early construction items. Then, in case of a quantity overrun on those items, the Owner will be paying a higher cost for the project than is necessary (Fisk 1982).

The advance payment is varied from country to another. Egypt's Tender Law # 9 (1983) allows, when necessary, to pay the contractor an advance payment up to 100% of the contract price against a letter of credit of equal value. In Belgium, the advance payment may reach 50% of the contract price whereas in America and the U.K., it was left open up to the Owner to approve such payment in accordance to the terms of the general contract conditions.

In the Kingdom, GPLR (Article 8) allows - not automatic or man-

datory - the Owner to pay the contractor an advance payment of 20% at maximum of the contract value, and this has been reduced to a maximum of 10% of the contract value, following the hand over of the site in exchange of a bank guarantee equivalent to the same amount to be deducted from the actual dues of the contractor by the same percentage. Such a guarantee continues to be valid until the recovery of the full advance payment. The advance payment so effected is recovered by deducting 10% of any installment due to the contractor immediately following, and the bank guaranteeing the advance payment to be reduced by the amount recovered by the Owner from the advance payment.

Recently and after the reduction of the advance payment to a maximum of 10% of the contract price, the number of contractors received such payment are minimized and the payment is released rarely. The recent reduction and voluntarism of the advance payment by the Owner were criticised by a Saudi Chamber of Commerce paper (SCC 1989) and considered to be one major cash flow problem facing contractors during work mobilization, whereas some modifications on the advance payment system were recommended, instead of the reduction, in the First Conference for Saudi Businessmen (FCSB 1983). The proposed modification depends on the contract size, for instance:-

- a. For projects of SR.100 Millions or less, and since such projects are mostly executed by Saudi Contractors, a 20 percent advance payment is proposed. Such step is considered toward backing

Saudi contractors.

- b. For projects costing more than SR. 100 Millions to SR. 500 Millions, a 15 percent advance payment is proposed.
- c. For projects costing more than SR. 500 Millions to SR. 1000 Millions, a 10 percent advance payment is proposed.
- d. For projects costing more than SR. 1000 Millions, a 5 percent advance payment is proposed.

2.4.3 RETAINAGE

The majority of construction projects, particularly public works projects, involve some retention of a portion of progress payment of the contractor (commonly a certain percentage) (Fisk 1982). Retainage on larger projects results in the Owner having custody of a large sum of the contractor's funds for large periods of time that may produce cash flow problems for contractors, resulting in substantial borrowing at high interest rates. This may discourage contractors from bidding on some projects, reducing competition, and increasing construction costs (Clough 1981).

To mitigate the undesirable effects of retainage, a number of changes and innovations have been introduced. These are as follows (Clough 1981):-

- ten percent retainage is withheld only during the first half of the project with subsequent progress payments being made in full

if job progress is satisfactory;

- five percent retainage to the entire project is applied;
- ten percent is retained on each work category of the project up until the time of 50 percent completion of that category. Then, full payment is made if the work is proceeding satisfactorily;
- ten percent is withheld for the entire project but the Owner may authorize full payment when satisfactory progress is being achieved;
- ten percent is retained till substantial completion of the project, and at the discretion of the Owner, a portion of the retainage can be returned to the contractor;
- Certain agencies have eliminated retainage altogether on a temporary, trial basis. The general services administration (Barield 1975) eliminated the retainage on their construction contracts since 1975;
- An approved plan for the contractor to place bonds or other securities in escrow have been used as an alternative to retainage, and the contractor is allowed to withdraw its retainage of the deposit with an escrow agent if approved securities have a market value equal to the amount withdrawn.

In Europe, 3 to 5 percent of each payment retainage is typical where one-half of the retained money is paid after the preliminary

acceptance of the project; and the other half during the final settlement (Porter 1980). In Egypt, a similar percentage (5%) of each payment is retained until the preliminary acceptance of the project (Tender Law # 9, 1983).

In the Kingdom, GPLR (article M/8/B) explains and defines the method of payment in construction work as it is the right of the Owner to adopt any of the following methods:-

1. Define the level of payment at 100% of the work performed and the payment of the last certificate will be deferred until the preliminary acceptance of the project and until payment of Zakat and Income Taxes.
2. Fix the amount to be paid (payment) at 90% of the value of work performed and hold 10% of the value until the work has been completed and delivered preliminarily and the certificate of Zakat and Income Tax has been submitted.
3. As additional protection, an Owner may fix the payment at 90% of the value of work performed and hold 10% of each payment to ensure good performance and also keep the last payment until all work has been completed and preliminarily delivered and Zakat and Income Tax certificates presented.

The point is that regardless of the method and dates of payment specified by the Owner, it is necessary that they be explicitly mentioned in the contract; in the event they are not,

the first method will be applied.

A recent circular by the Ministry of Finance and National Economy No. 3/1262 dated 20/2/1406 A.H. rules that the first method will be used provided that the last certificate (payment) not less than 10% of contract value, in order to help the contractors financially.

2.4.4 CHANGE ORDERS

A change order, as a modification of the contract, means that the parties have entered into a new contract. It is presumed that such a contract modification has taken into account all prior negotiations and understandings leading up to its signing and also that the terms of each change order reflect proper consideration of these negotiations. The contractor is not to proceed with any contract change before it has been authorized in writing by the Owner or his representative. There are often instances where it is desirable to proceed with changed work before the formal change has been executed. Many contracting firms utilize "Field Orders" for this purpose; these being forms that authorize the contractor to proceed until the formal change order can be processed. Caution is needed in relying on such field orders, however, especially when substantial changes to the contract are involved (Clough 1981).

The U.S. Public contract changes clause (Trauner & Payne 1988) allows the Owner at any time, without notice to the sureties, by

written order designated or indicated to be a change order, to make any changes in the work within the general scope of the contract, including but not limited to changes:

- in the specifications (including drawings and designs);
- in the method or manner of performance of the work;
- in the Owner furnished facilities, equipment, materials, services, or site; or
- directing acceleration in the performance of the work..

And under the changes clause, any other written order or an oral order includes direction, instruction, interpretation or determination from the Owner, which causes any such change, will be treated as a change order, provided that the contractor gives the Owner written notice stating the date, circumstances, and source of the order that the contractor regards the order as a change order. If any change causes an increase or decrease in the contractor's cost of, or the time required for, the performance of any part of the work under the contract, whether or not changed by any order, an equitable adjustment will be made and the contract modified in writing accordingly.

The American Institute of Architects (AIA Document A201) subpara 12.1.3 states in the general conditions of the contract for construction, the cost or credit to the Owner resulting from a change in the work will be determined in one or more of the following ways:

- By mutual acceptance of a lump-sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- By unit prices stated in the contract documents or subsequently agreed upon;
- By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fix or percentage fee; or
- By cost to be determined by the Owner on the basis of the reasonable expenditures and savings of those performing the work attributable to the change, including, in the case of an increase in the contract sum, a reasonable allowance for overhead and profit.

Fixed-price contracts require a written change order, which acts as an amendment to the original contract. The terms of such change orders are typically negotiated on a fixed-price basis. The impact of schedule and additional overhead must be considered. In a unit price contract, the item that is added must be negotiated and added to the contract as in a fixed-price contract. Deletions should not affect the administration of a unit price contract since the contractor is paid only for the work performed. However, if the actual quantities vary considerably from the estimated quantities, the unit price can be renegotiated as specified in the contract's general conditions. The Washington State Department of Transportation specifies that a 25 percent variance in major item

quantities justifies renegotiation of the unit price for that item (Ironmonger 1989). Whereas the Federal Acquisition Regulation (FAR) allows the contractor or the Owner to renegotiate the unit-price, when specified units vary in excess of 15% of the quantity stated in the contract (Trauner & Payne 1988).

Most of the construction contracts have a change clause that allows the Owner to make any changes in the work within the general scope of the contract. The ceiling of such changes is left to the Owner assessment. On the contrary, there are many countries that limited the changes within a percentage of the contract price awarded. Belgium Construction Law allows changes in the work but may not exceed 50% of the amount of original contract (Verbist 1987). Egyptian Tender Law (1991) allows changes in the work during the execution of the contract to increase / or decrease the amount of work by a proportion not exceeding 25% of the contract value.

In the Kingdom, GPLR (article 25) allows the Owner, during the execution of the contract to increase the amount of the works by a proportion not exceeding twenty percent (20%) of the value of the contract - a recent circular by the Ministry of Finance and National Economy # 201909 dated 15/9/1403 A. H. reduces the above mentioned percentage to ten percent (10%) of the value of the contract - and may decrease the amount of works by a proportion not exceeding twenty percent (20%) of the value of the contract, provided that the contract value will be amended forthwith accordingly whether by increase or decrease. GPLR

(article 26) further added that the changes are limited to changes not requiring an extension in the time for completion unless it has been issued at a very late stage where it is impossible to be executed, so the additional reasonable period is added.

Standard public work contract (SPWC Article 43) allows the Owner to make any changes in the appearance, type or quantity of the works, or any part thereof, as appropriate and the contractor should carry out such changes on condition that they do not result in modifying the location of the contract or in exceeding the limits stipulated in the GPLR.

In evaluating change orders (SPWC Article 44), the Owner calculates the value should be added or deducted from the value of the contract as a result of any extra or omitted work as per the schedule of unit rates and prices detailed in the contract, if such rates or averages are applicable. But if they are not applicable to the added or omitted work, then agreement will be made between the Owner and the contractor, with the assistance of the Engineer to determine fair prices according to the daily wage of laborers or any other bases seen to be suitable by the Engineer. Procedures of change order issuance are illustrated in (FIG. 3).

Jaynes & Ransom (1985) mentioned that there are many sad stories in Saudi Arabia on the effect of the use of Article (25)

power that has been used by the Owner. And he recalls a European contractor who became bankrupt as a result of failing to manipulate a Saudi Road contract that the power to make Article 25 changes would be limited to changes not requiring an extension in the time for completion. Thomas Gallagher (1985) considered the lack of sufficient procedures or documentation for the authorization of change orders, a major cause of disputes in the Kingdom. He further adds that the contractor should raise the time and cost issues before proceeding with performance, which can be very unhappy traps for an unwary contractor.

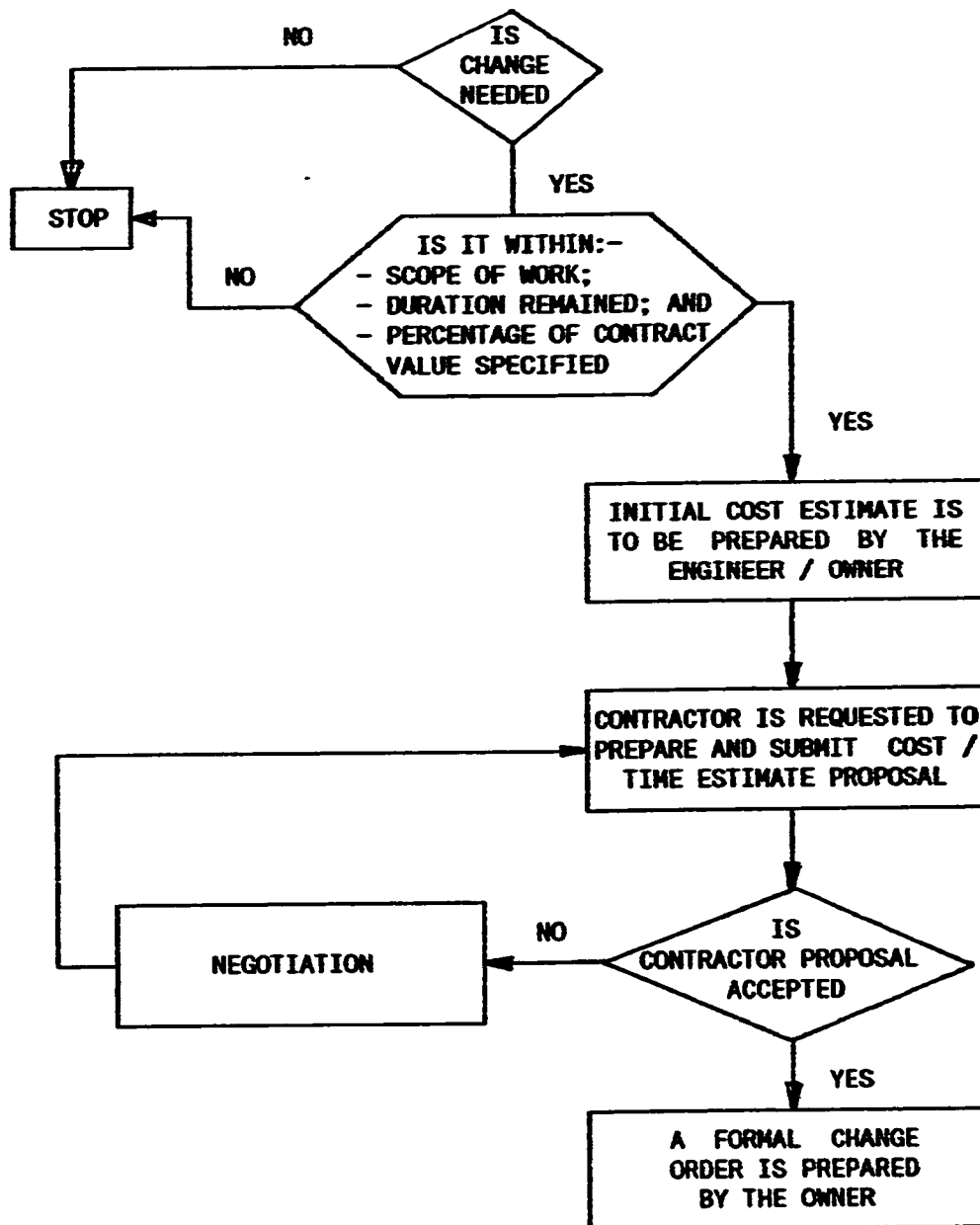


FIG.3 CHANGE ORDER PROCEDURES IN THE KINGDOM (ALJESHI 1987)

2.4.5 DELAY PENALTIES

Virtually every Owner on a construction project attempts to include a provision in the contract which emphasizes the effect that "time is of the essence". The purpose of such a provision is to enable the Owner to assess damages against a contractor who fails to complete a project on time. In addition, most construction contracts specifically set forth a time frame for commencement and completion of the construction project. Typically, the provision sets out that the contractor will commence performance of the work within a specified number of days after receipt of the notice to proceed from the Owner that both parties agree is required to perform such work (Currie & Dorris 1986).

When the delays are foreseeable, or are within the control of the contractor, the contractor is not entitled to a time extension and is liable for liquidated damages or delay penalties; such delays as (Trauner & Payne 1988):-

- A subcontractor does not perform on time.
- A supplier does not provide material in a timely fashion.
- The general contractor does not expedite the work promptly.

There are many instances in which the work is delayed by some act of omission or commission on the part of the Owner or by contractors, i.e. delays in making the site available to the contractor, failure to deliver the Owner's provided materials on time, unreasonable delays in approval of shop drawings, delays

caused by another contractor, delays in issuance of change orders, and suspension of the work because of financial or legal difficulties. Owner - caused delay is of concern to the contractor for time reasons. First, when the overall completion date of the project is affected, a suitable extension of time must be obtained. The second and more difficult problem for contractors is the consequential damages or impact cost that can result from project delay. A contractor has the right to recover damages for its increased costs of performance caused by delays attributable to the Owner (Clough 1981).

On Public projects, the U.S. Government has assumed responsibility for payment of the impact cost in the case of the Owner caused delay. Some contracts contain provisions that expressly limit contract relief in cases of job delay to time extensions only. Others indicate clearly that the provision for time extensions does not preclude delay damages and many contracts contain "no damage for delay" clauses that has been in more common use in the last 10-15 years, whereby the Owner is excused from all responsibility for damages resulting from the Owner caused delay (Galyan 1990).

Also, many construction contracts contain time extension clauses that provide for extensions to the scheduled completion date upon the occurrence of certain conditions or circumstances as specified by the clause. By including such a clause, the parties are basically stating their intention that matters beyond the

contractor's control will be taken into account in adjusting the time in which the parties can expect that the construction project will be completed (Currie & Dorris 1986). Documents of the American Institute of Architects (AIA Document A101) subpara 12.2.1. contain such provisions.

When a delay in construction is encountered over which the contractor has no control, the contractor must bring the condition to the attention of the Owner or his representative in writing within a designated period of time after the start of the delay. Ten to twenty calendar days is the time period commonly specified in construction contracts (Clough 1981).

While it is common practice throughout the construction industry in America to require that the contractor pay the Owner a fixed sum of money agreed upon in the contract for each calendar day that it exceeds the specified date of completion; under German Law, contracts may contain penalty clause provided that penalties are not to be awarded for delays beyond contractor control such as but not limited to that caused by force majeure or the Owner since an extension of time for performance in such cases are granted. The law limits penalties for delay in delivery to one-half of one percent (0.5%) of the value of the outstanding delivery for each week of delay. If the penalties are determined according to the number of days, only working days may be counted. If the penalty is measured according to the number of weeks of delay, each

workday is considered one - sixth of a week of delay (Cleesattel 1987).

A typical liquidated damages clause in Japan provides that if the contractor fails to deliver the work within the term for performance of the contract and offers no valid excuse for his nonperformance, the Owner may recover liquidated damages at the daily rate of one thousandth (0.001) of the contract price less the contract price proportionate to completed parts of the work and to materials that have passed inspection. Similarly, the contractor can recover liquidated damages at this daily rate if the Owner is in arrears of payment or has delayed advance or partial payment (Kashiwagi, Rubin & Harris 1988).

Some other countries require a fixed percentage of the contract total sum. Belgium Law requires a penalty of ten percent (10%) of the contract price of the lowest bidder (Verbist 1987). Egyptian tender Law (1991) allows a penalty on the delayed work with a maximum of 15% of the contract awarded price on the following basis:-

- A penalty of 1% for the first week or part of delay.
- A penalty of 1.5% for the second week or part of delay.
- A penalty of 2% for the third week of or part of delay.
- A penalty of 2.5% for the fourth week or part of delay.
- A penalty of 4% for each month or part of provided that the maximum delay penalty is 15% of the contract price.

In the Kingdom, GPLR Article 26 - mentioned earlier - legalizes an extension in the period provided for in the contract duration article, to a suitable duration, in the cases where equity requires granting the contractor extension in the completion time as a result of an increased amount or additional work, and where it would be practically and materially impossible to complete it within the original period of the contract, or as a result of physical circumstances or unusual obstacles which any experienced contractor could not have foreseen. The operation of the above is conditional upon the contractor submitting a written request to the Engineer within 10 days of his being informed of the extra or additional work, or the occurrence of the unexpected circumstances or the unusual obstacles which call for the extension. The request will justify the extension in such a clear manner that the Owner can decide upon it in time and it should be understood and agreed upon that the Owner will not entertain any request for extension of time unless it complies with the requirements of the above mentioned rules.

GPLR (article 37) defines the method for calculating the penalty of delay by stating that in the event the contractor delays the accomplishment of the work and its complete hand-over at the specified time and the Owner did not judge it necessary to withdraw the work from the contractor, the contractor will pay a penalty for the period of delay beyond the specified date of

hand-over; the penalty is calculated on the basis of the average daily cost of the project by dividing the value of the contract by its duration as follows:-

- a. Penalty on the first part of the period of delay amounting to one quarter of the average daily cost for each day of delay until the longest of the two periods reaches fifteen days or five percent of the duration of the contract.
- b. Penalty on the second part of the period of delay amounting to half the average daily cost for each day of delay until the two parts of the longest of the two periods reaches thirty days or ten percent of the duration of the contract.
- c. Penalty on the third part of the period of delay amounting to the full average daily cost for each day of delay following the longest of the two periods as stipulated in paragraph (b).

The total penalties should not exceed ten percent (10%) of the contract value. However, in the event the Owner considers that the delayed part does not prevent the full use of the work on the due date of completion and does not cause any inconvenience in the use of other facilities and does not affect the accomplished part of the work in an adverse manner, the total penalties should not exceed ten percent (10%) of the value of delayed works.

In addition to the penalty, the contractor bears the fees of the project supervisor during the period where the cont-

contractor was subjected to the penalty of delay. Such fees are calculated on the basis of the supervisor's contract and may be paid in the form of a periodical amount or a certain percentage of the value of the contract. If lump sum is paid for supervision or if supervision is carried out by the Owner, the fees of the supervisor will be equal to (0.01) of the contract value multiplied by the ratio of period of delay (in days) to the duration of the contract (in days).

Payment or deduction of the penalties and costs do not relieve the contractor from his obligation to complete the works nor does it relieve him from any of his other liabilities and responsibility according to the contract.

The majority of Public Owners believed that the current delay penalty percentage (10% at max.) in public works contracts is low, and high percentage of the public projects (Approx.75%) are delayed and penalized (CAS 1989).

Zainelabedian (1983) recommended a revision to the penalty of delay used in the Kingdom by proposing a maximum penalty of 10% of the contract price but to be dispersed to 25% of the contract duration with applying low penalty at the beginning and increasing rapidly at the end of the time provided; in addition to another 5% penalty applied for exceeding the 25% of the contract duration and distributed in the same manner as the previous method.

Saudi Chamber of Commerce (SCC 1989), considered the

implementation of delay penalty, without ascertainment by the Owner that the contractor caused and is responsible for such delays, as a major problem facing the contractors in the Kingdom.

2.4.6 DIFFERING SITE CONDITIONS (DSC)

One of the primary risk allocation clauses in public construction contracts is the standard differing site conditions clause, which provides for adjustment in the contract price under two conditions. It allows adjustment if the contractor encounters subsurface or latent physical conditions at the site which differ materially from those indicated in the contract. It also allows adjustment if the contractor finds unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract (Ruttinger 1986).

Many contracts provide for an adjustment of the contract amount and time if actual physical conditions at the site are found to differ materially from those indicated on the drawings and specifications or from those inherent in the type of work involved. When such a contract clause is present, the financial responsibility for unexpected conditions is placed on the Owner. Documents of The American Institute of Architects (AIA) document (A101) in Subpara 12.2.1 contains such provisions.

It is the purpose of a differing site conditions clause to reduce the contractor's liability for the unexpected and to

mitigate the need for including large contingency sums in the bid to allow for possible serious variations in site conditions from those described and intimated by the contract documents, or submitting a dangerously low bid in the hope that the subsurface conditions will be favorable - this is the case in the Kingdom. The essential question is whether the conditions are different from those the contractor should have reasonably expected and whether these conditions caused a significant increase in the project time or cost (Trauner & Payne 1988).

Since the differing site conditions clause is to induce bidders not to set their estimates on the basis of the worst possible conditions that might be encountered, why should an Owner elect not to employ the DSC clause, and accept the risk that bidders will include contingencies in their bids to compensate for conditions that may never be encountered (Hannan & Maloney 1990).

Joseph Newman (1979) had recommended that the Owner should provide a thorough site investigation for purposes of bidding, contract negotiation, and construction. Whereas, George Ruttinger (1986) criticized the public construction contracts requirement that bidders perform a reasonable site investigation before bidding, although in the presence of the DSC clause, which could undercut effective operation of the clause.

Kashiwagi, Rubin & Harris (1988) mentioned that in Japan, although the language of the DSC provisions appear similar to the

standard DSC clauses found in American Construction Contracts; the clauses are interpreted as requiring a sharing of the risk between Owner and contractor rather than, as in the United States, requiring a shifting of all risk from contractor to Owner.

In the Kingdom, GPLR circulars # 17/3404 and 13551 dated on 8/9/1397 A.H. and 25/11/1399 A.H. stated that no soil investigation report is required by the Owner and all the source of general specification, soil, and work conditions are solely contractor responsibilities and the bid will not be disqualified because the contractor didn't conduct the site conditions investigations.

The standard public works contract (Article 10 & 11), requires the contractor at his own expense to examine and inspect the site and the surrounding areas and should personally make sure, before submitting his tender, of the appearance of the site and the nature of its soil by making the necessary probing and holes; the contractor will also review the quantities and nature of the work. In case the contractor is faced during the implementation of the works with any financial difficulties or any unusual difficulties that any experienced contractor could not have logically anticipated, he will immediately and within ten days of discovering such difficulties and obstacles inform the Engineer or his representative of this fact. In such a case, the difficulties and obstacles will be reviewed and appropriate action by the Owner will be taken.

SCC (1989) considered the changed conditions difficulties on the site a major source of cash loss problem to the contractor where the practical implementation of the clause is not easy and disputed in most cases. Grievance Board (1989) also considered the changed conditions of unusual difficulties, one of the most important and frequent disputed matter related to construction contracts execution between the Owner and the contractor. Finally, Zainelabedian (1989) mentioned that ambiguities and vagueness appear very clear on the site inspection clause where escape words and generalizations are found; thus the contractor should negotiate the clause detailing the possible power of words and how it will be employed.

2.4.7 INSURANCE

Construction work by nature is hazardous, and accidents are frequent and often severe. Therefore, most of the public works contracts provide that the contractor procures and maintains at his own expense and without expense to the Owner, until final acceptance by the Owner of the work covered by the contract, insurance for liability for damages imposed by law, of the kinds and in the amounts provided, covering all operations under the contract whether performed by him or subcontractors. Before commencing the work, the contractor furnishes to the Owner a certificate of insurance in a form satisfactory to the Owner (Clough 1981).

The American Institute of Architects (AIA Document A201 of 1987) requires the contractor to insure against its liability to the Owner for any costs incurred pursuant to the provisions obligating the contractor to indemnify the Owner for losses sustained in connection with the work. It also requires the contractor to maintain insurance without interruption, from the date of commencement of the work until the date of final payment. Also, the Owner is required to be insured under an "all-risk" policy in full amount of the contract sum (Plotkowski 1988).

While there are many types of construction insurance coverage, the most common insurance policies are (Clough 1981):-

a) WORKMEN'S COMPENSATION INSURANCE:-

A policy covering the obligations of the contractor to provide its injured workmen with all benefits as may be required by law, although the contractor is allowed to carry its own risk as a self-insurer if it can provide satisfactory evidence of its financial ability to do so. Workmen's compensation insurance is unlimited in the policy and pays the medical costs and provides the benefits required by law.

b) ALL - RISK BUILDER'S RISK INSURANCE:-

This policy is widely used for building construction projects that covers the project proper as well as temporary structures at the jobsite. Materials, equipment, and supplies

pertaining to the construction are protected in storage prior delivery. The policy insures against all direct physical loss or damage from any external cause to the property covered, except for stated exclusions, that even can be removed or modified for an additional premium. While the Owner and / or the contractor purchases this policy, it was strongly recommended (Dauer & Peirce 1988) that contractors buy this insurance policy.

c) CONTRACTOR'S PUBLIC LIABILITY & PROPERTY DAMAGE INSURANCE:-

This policy protects the contractor against its legal liability to third persons for bodily injury and property damage arising out of its own operations. Excluded from coverage are injuries to the contractor's own employees as well as all forms of automobile liability. The contractor's buildings and premises, owned or leased, are included as well as its business operations in progress anywhere. Normally included in the property damage liability coverage, either as apart of the basic policy or by broad-form property damage endorsement, is damage to the property of other contractors (including subcontractors).

d) COMPREHENSIVE GENERAL LIABILITY INSURANCE:-

Most contractors require protection for liability arising out of their own operations, from their subcontractors, and from their completed projects. These coverages are frequently combined into a single comprehensive general liability policy,

that also includes some limited contractual liability coverage. Despite its name, however, the comprehensive general policy is not all-inclusive in its coverage and there are many exclusions.

In the Kingdom, due to the increasing risks in Saudi Society, Islamic legislators (ILC. 1978) legitimate "INSURANCE" only when a cooperative and risk sharing communities are forming companies using donations of non-profitable business. The insured, in accepting dealings with the company, is considered as participating with other insured persons with the company on a cooperative (Mutual) basis. The relation of the company with the insured is particularly determined in regard to the latter's share in surplus realized from company's Board of Directors, in this regard, with consideration to accumulating necessary reserves and coverage of expenses related to insurance operations management. A good indication of this, is the forming of the "National Co-Operative Insurance Company" in accordance with the target of the "Fifth National Development Plan".

The insurance policies used in the construction industry in the local market are:-

1. Contractors' all risk insurance (builder's all risk insurance).
2. Contractors' all risk and public liability insurance.
3. Contractors' plant and machinery insurance.

The standard public works contract (article 12/5) requires the

contractor - upon signing any contract whose value exceeds Five Million Riyals - to submit to the competent Government authority the necessary insurance policy that indicates that he has insured the project and its basic components during its implementation and up to the date of preliminary hand-over by means of a national insurance company.

The contractor undertakes to subscribe to the special security to the benefit of his workers and employees working in the Kingdom in accordance with the General Organization of Social Insurance (GOSI) regulation (1984): It is equal to two percent (2%) of the workman salary paid by the contractor whereas, for Saudi workman, eight percent (8%) is to be paid by the Owner or (10%) paid by the contractor in addition to five percent (5%) to be paid by him, totaling (13%) or (15%) of workman salary if he is employed by the Owner or contractor respectively.

The contractor obtains the prior approval of the Owner of the insurance company he is to enter into contract with on terms approved by the Owner. He provides the Owner with the insurance policy or policies and receipt of installment payments and premiums. It is limited to the "National Cooperative Insurance Company". There are many Insurance Companies working in the Kingdom and registered in the GCC Countries (SCC 1989).

GPLR (article 30) states that the contractor is liable for the total or partial collapse of the construction erected by him, if

this occurs within ten years from the date on which such constructions were handed over to the Administration Authority, if the collapse was due to a defect in the work, save when the contracting parties have agreed that the construction should last for a shorter period.

Thomas Gallagher (1985) inquired and asked for a clarification on the article 30 of GPLR such as:-

- When does the period of the insurance (Decennial) start, at preliminary completion ? Or at final completion ?
- Does it relate to separate parts with separate acceptance dates or date of the last certificate ? Are the years Hijri years or Gregorian years ?
- What is the obligation of the contractor regarding third party warranties ?
- Can the warranties be shared by both the contractor and the suppliers ? Can the contractor take himself out of the loop by putting the supplier at his own risk ? And who is responsible for pursuing claims on supplier warranties ?

Also, he further added that more difficult is the issue of construction warranties VS. design warranties where article 31 of the GPLR imposes upon the construction contractor a responsibility to check the design he is building. Even where the major cause of the defect may be the design firm, the construction

contractor may be the principal target.

While, the decennial liability applies to all construction contracts in Saudi Arabia where only the contractor is liable for such liability, Kuwait Law (Totterdill 1991) requires both the designer and the contractor to remain responsible for certain serious defects for a period of 10 years after the project is complete.

Bahu (1985) regarding decennial liability, GPLR Article 30, mentioned that although insurance is available, many contractors wisely or otherwise decide to retain such risks unless they are required to produce a guarantee or a policy of insurance to cover such a liability. SCC (1989) criticized the circular of Ministry of Finance that limit the Insurance to the "National Cooperative Insurance Company (NCIC)", although there are many insurance companies working in the Kingdom competitively, and considered it as a deprivation of the contractor right of choice.

3. SURVEY METHODOLOGY

This chapter is devoted to the research design in which the questionnaire content is presented along with the Pilot Study. The population is then defined, followed by data collection.

3.1 RESEARCH DESIGN

A questionnaire was developed to measure the opinion of the respondents toward proposed practice statements that spellout some of the GPLR Articles and measures that assist in effectively managing a construction contract. The questionnaire was distributed to the concerned government agencies, that form the population of the study, in order to collect the required data for analysis.

3.1.1 QUESTIONNAIRE DESIGN

The questionnaire contains the following:-

- An official letter to the respondents;
- Term definitions; and
- The questions which are divided into three parts with its current and proposed practice activitie statements.
 - a. Tendering phase - consists of four major bidding activities.

b. Construction phase - consists of nine major construction activities Articles.

c. Contract Administration - consists of twenty - two proposed statements.

- The questionnaire was designed to cover the current and proposed practice of the following in a multiple choice question, including a choice where specific information can be written in a given space:-

a. Tendering Phase:

- Bid bond
- Bidders' qualification
- Pre-bid conference
- Contract award

b. Construction Phase:

- Pre-construction conference
- Performance bond
- Labour and material bond
- Advance payment
- Differing site conditions
- Change Orders
- Payments
- Penalty of delay
- Insurance

c. Contract Administration:

Statements were developed to measure the respondents' opinions toward the current and proposed practices activities. These opinions are registered on a 4-point Likert Scale ranging from "Strongly Agree" to "Strongly Disagree".

3.1.2 THE PILOT STUDY

A pilot study was performed just before the final questionnaire draft had been approved. A sample of eleven Government Engineers involved in public construction activities was selected from the Dammam area. They were asked to fill out the questionnaire.

This pilot study serves the following:-

- Test the adequacy of the questions;
- point out places of ambiguities;
- incorporate more possible answers and increase lists of choices;
- review the adequacy of provided space for each question, and
- estimate the time needed to fill out the questionnaire, and determine whether it is reasonable.

The pilot run helped detect the adequacy and ambiguity found in:

a. Tendering Phase:-

- Questions # 3 & 4 were restated in a more precise manner.

b. Construction Phase:-

- Question # 4b was restated.
- Questions # 6 & 8, more choices were added and more "others" (specify) choices were provided to the respondent.

c. Contract Administration:-

Two more questions were added and some questions restated and relocated in a reasonable manner.

Later the questionnaire was finally produced and made ready for distribution.

3.1.3 POPULATION

The population of this study is defined to be all Government Departments that have the authority to tender and / or supervise the execution of public construction contracts. The Government annual budget allocations are used as the source of identifying these departments. The general department of statistics in the Ministry of Finance and National Economy issues annually a "statistical year book" which contains, among other statistics, the Government budget appropriated by chapter, items and sections, 1410 / 1411 A.H. The twenty - sixth issue of this book 1990, the latest available, is used to produce the list of Government Departments which satisfy the above population definition. They were totaled to 45 Agencies and listed in the order

they appear in the budget allocations.

Further investigations revealed that some of the Ministries have several departments in the Kingdom satisfying the definition of the study population.

Therefore, the total population is up to 100 authorities. And since it is relatively small, no sampling scheme was used, and the entire population was surveyed (APPENDIX - A).

The questionnaire was filled out by the Directors of Project departments, as they are expected to know most about the research subject.

3.1.4 DATA COLLECTION

Mail surveys were adopted and the questionnaire was designed to be self explanatory.

Necessary copies of the questionnaire were mailed on the 5th of February 1992 (2/8/1412 A.H.). Fifty-one filled questionnaires were returned (51% of the total) in the first month. A letter of follow up was sent on the 7th of March 1992 (3/9/1412 A.H.), to those who did not respond, reminding them about the questionnaire and asking for a response; an additional copy of the questionnaire was also attached. By 18th of April 1992 (15/10/1412 A.H.) total responses reached to eighty (80% of all questionnaires sent). These 80 completed questionnaires were used for the analysis.

Six Government Departments sent back more than one questionnaire: Eastern Province General Directorate of Municipal and Rural Affairs, Civil Aviation, Southern Telephone Department, Tabouk Municipality, Gazan Municipality, Hail Municipality, and the Ministry of Defense sent 7,6,4,3,2,2 & 2 respectively. Since one questionnaire representing each Department was assigned, therefore, it was decided to select the completed questionnaire which had been filled by the competent Department Director; random selection was used only when the Director was not known.

The data are to be analyzed using a program designed for this survey called "GPLR Analysis Program".

Data are obtained by responses to either a multiple choice question including a specific information that can be filled in a given space, or 4-point Likert Scale questions. All data were entered in the computer using a coding scheme designed for this purpose.

All the structured data of this research were summarized by calculating means, standard deviations, the frequency, percentage and ranks. Information written by the respondents on others (specify) choice were analyzed manually.

4. RESULTS AND DISCUSSION

4.1 INTRODUCTION

The objectives of this research is to evaluate the Government Procurement Laws and Regulations (GPLR) articles related to construction contracts; and to introduce and adopt measures that assist in effectively managing construction contracts of public projects.

This chapter contains mainly the results of the GPLR and contract administration questionnaire. Information presentation in the chapter will follow the following pattern: definition, local practice, strength and weaknesses, results, and discussion. The idea behind such a pattern is to give the reader the complete information regarding each issue.

4.2 RESULTS AND ANALYSIS

The results of this study are generated from eighty (80) responses to the questionnaire mailed to one hundred (100) Government Departments and Organizations that represent the population of the study. The data collected were analyzed statistically. The structured data are summarized by calculating frequencies, percentage, means, standard deviations, and ranks. Respondents written

responses, in "others" (specify) choices were summarized manually.

The discussion will follow the following list:-

A- BIDDING PHASE

1. Bid bond (preliminary guarantee).
2. Bidders' qualification.
3. Prebid conference.
4. Contract award.

B- CONSTRUCTION PHASE

1. Pre-construction conference.
2. Performance bond (final guarantee).
3. Labour and material payment bond.
4. Advance payment.
5. Site conditions.
6. Retainage.
7. Change orders.
8. Penalty of delay.
9. Insurance.

C- CONTRACT ADMINISTRATION

1. GPLR manual.
2. Standard public works contract.
3. Payments.

4. Value Engineering.
5. Local products and contractors.
6. QC/QA program
7. Safety.
8. Coordination.
9. Contract administration program.
10. Standard construction contract administration manual.

4.2.1 BIDDING PHASE

Four multiple choice questions related to the bidding phase are forming the first part of the questionnaire, they are : Bid Bond (preliminary guarantee), bidders' qualification, pre-bid conference, and contract award.

1. BID BOND (PRELIMINARY GUARANTEE)

A Bid Bond (Preliminary Guarantee) is a form of bid security executed by the bidder as principal and by a surety to guarantee that the bidder will enter into a contract within a specified time and furnish any required performance bond and others. The amount of this bond is normally ten percent (10%) of the base bid price and the bidder's bonding company usually supplies it at no cost to the bidder (Clough 1980).

In the Kingdom, Auctions and Tender Law (1965) required two percent (2%) of the base bid price, where the superseded GPLR requires only one percent (1%) and required to remain in force

during the period of validity. It is obvious that this percentage is much lower than the normal 10% value which may not cover the expenses of going to the second low bidder.

TABLE 4.1. Frequency and Percentage of Bid Bond

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. 1% of bid price	59	74
B. 5% of bid price	16	20
C. 10% of bid price	0	0
D. Others (specify): Added by the respondents	5	6
	n = 80	

The survey indicated that seventy-four percent of the respondents (59 out of 80) supported the current practice of requiring one percent of bid price as a bid bond and none for the ten percent practice.

Such results may be interpreted as to the Government's measures to help contractors and encourage them to submit their bids.

2. BIDDERS' QUALIFICATION

The attributes of the contractors are judged or reviewed to determine qualification to predetermined standards and requirements (manual 1988). Pre/post bid qualifications are techniques to qualify bidders prior/subsequent to submitting the bids respectively. In

the Double - Envelope System, the bidder submits a technical proposal in one envelope and a price proposal in a second envelope. The Owner evaluates the technical proposals and selects the qualified contractors based on these proposals; then he evaluates the prices of the qualified contractors only.

In the Kingdom, post-bid qualification technique is used during bids evaluation where the disqualified bidder is disregarded. Certificate of contractor classification (C.C.C.) by the Ministry of Public works is the base for qualifying bidders. For qualification purpose, the public works are divided into five classes based on the value of the contract. These major classes are broken into ten various categories depending on the type of work. The classified contractor is qualified to bid within his class ceiling (Najeem 1989). Grievance (1989) recommended to use the Double-envelope System in replacement of the current qualification technique.

TABLE 4.2. Frequency and Percentage of Bidders' Qualification

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. Pre-bid qualification	37	47
B. Double --envelope system	30	38
C. Post - bid qualification	12	15
	n = 79	

The survey indicated that forty - seven percent of the res-

pondents (37 out of 79) have supported the pre-bid qualification; thirty eight percent of the respondents voted for the Double - Envelope System; and only fifteen percent supported the post-bid qualification practice that is used currently.

The above results reflect a strong support to adopt a system that will differentiate good contractors, such needs arise from problems such as:-

- Subsequent bid qualification opens the door for all contractors to bid, and when bids are evaluated it becomes hard to disregard the disqualified contractors especially, the lowest bidder, since the regulation state "responsive lowest bidder" and the term responsible is not defined.
- Many construction projects are poorly executed by contractors who were not qualified for such works (CAS 1989).

3. PRE-BID CONFERENCE

An informational meeting at the Owner Office where the Owner/or his representative meets the bidders and explains the requirements of the tender and seeks to assure that each contractor receives the same information and the contract documents are provided to the contractors; then answers all concerned questions or inquiries. If necessary, contractors are taken to the site to assure that they understand conditions there (Goldhaber 1977). The conference should be scheduled several days prior to the bid opening.

In the Kingdom, such a conference is not required by GPLR though, few Government Departments hold it, i.e. the National Guard and the Royal Commission. All clarified questions are sent formally by mail or fax where some problems are not eliminated in many cases.

TABLE 4.3. Frequency and Percentage of Pre-Bid Conference

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. At the Owner's dep. ten days prior to opening.	43	54
B. At the Owner's dep. and whoever does not attend will be excluded from bidding.	8	10
C. Pre-bid conference is not important, though not required.	26	32
D. Others (specify): Added by the respondents	3	4
	n = 80	

The survey indicated that sixty-four percent of the respondents have supported holding a pre-bid conference.

The high support for such a conference may be due to the following reasons:-

- It is a good time to clarify the vagueness and contradictions in the contract documents, and may be more effective than the current practice. Also, such a meeting will introduce the bidders to each other: where there are possibilities of a group site visit.

4. CONTRACT AWARD

After all bids have been opened and the individual bids tabulated, the bids should be evaluated, and each bidder must be checked for financial responsibility, licensing while integrity depends on what kind of qualification techniques are used with the bidders. A responsive bid is one that meets all the requirements specified in the bidding documents; submitted on time; all forms are completely and properly filled out, signed, and dated; and any required bid bond must be executed on the prescribed form. A responsive low bidder normally receives the award (Fisk 1982).

In the Kingdom, GPLR (article 16) requires the award to be on the best pricewise and technical expertise bid, but the Ministry of Finance insists that the award should be to the lowest bidder.

A secret (project) estimate is used and done mostly by consultants; and used for budget appropriation only and not to be used as a base for contract award. The contract is usually awarded to the lowest bidder, although some contractors may not be qualified for such works.

The survey (Table 4.4) indicated that sixty percent of the respondents (45 out of 75) strongly recommended to have a project estimate as a base and the award to the first bidder lower than the estimate whereas, twenty-four percent of the respondents have supported the current practice of award to the lowest responsive bidder - most of them require pre-bid qualification or Double-

envelope System techniques as a base for contract award. Seven percent of the respondents have ticked the choice of the award to the first bid lower than the average bids. In others choice (added by respondents), six respondents thought the award should be to the best bid offered pricewise and technical expertise.

TABLE 4.4. Frequency and Percentage of Contract Award

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. A project estimate is recommended, and is awarded to the first bid lower than the estimate.	45	60
B. The lowest responsive bidder.	18	24
C. The first bid lower than the average.	5	7
D. The second lowest.	0	0
E. Others (specify): Added by the respondents	7	9
	n = 75	

The results indicate the need to use the project estimate as a base for contract award. Also, the current practice of post-bid qualification with awarding to the lowest bidder does not serve the project quality since contractors usually underbid to get the project then start cutting on the project quality.

4.2.2 CONSTRUCTION PHASE

Nine multiple choice questions related to the construction phase

are forming the second part of the questionnaire, they are:

- Pre-construction conference.
- Performance bond (final guarantee).
- Labor and material payment bond.
- Advance payment.
- Differing site conditions.
- Change orders.
- Retainage.
- Penalty of delay.
- Insurance.

1. PRE-CONSTRUCTION CONFERENCE

The Pre-construction Conference, also known as a construction coordination conference, is a meeting of the principal parties involved with the execution of the construction project: the Owner, contractor, and consultant. The prime purpose of the conference is to establish acceptable ground rules for all parties concerned, and to assure that each contractor understands the complete job requirements and coordinates the work to produce a completed job in a minimum amount of time, with maximum economic gain, and in harmony with the Owner, consultant and contractor (Fisk 1982)..

In the Kingdom, such a conference is not required by GPLR nor by public works contract though a few Government Departments hold it. Problems occurred due to not holding the conference such as,

misunderstanding of procedures involved in contractor submittals, sampling and testing, construction surveys, inspections by outside agencies, payment requests, procedures for claims and disputes, unforeseen job conditions, change orders requests, and similar items. Holding the conference allows the contractor to take his opportunity to raise questions about any of these items and clear it up.

TABLE 4.5. Frequency and Percentage of Pre-Construction Conference

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. Mandatory.	60	79
B. Elective.	13	17
C. Not required.	3	4
	n = 76	

The survey indicated that seventy-nine percent of the respondents (60 out of 76) have strongly recommended to have the conference as mandatory.

Communication is essential for successful projects. Such meeting will improve communication among parties. The high agreement on making such meeting mandatory indicates that usually there will be a lot of issues that Owner representatives like to clarify, for the contractor representative. Such as procedures regarding submittals, payment preparation and requests, etc.

2. PERFORMANCE BOND (FINAL GUARANTEE)

This bond guarantees that the contractor will complete the project, or his bonding company will either provide funding or hire another contractor to complete the job. Performance bonds are usually required for one hundred percent (100%) of the total contract amount. A lesser amount leaves the Owner vulnerable to risk. The performance bond applies to all contract modification and that the life of the bond must include all extensions of time and any guarantee period required (Clough 1981).

In the Kingdom, the old Auction and Tender law (1965) required ten percent (10%) of the contract price as a performance bond, where the superseded GPLR requires only five percent (5%) or 25% of the contract price, if surety is an Insurance Company, and to be terminated at the final acceptance date of the project. Whether or not this five percent bond is enough, in case of contractor disability to complete the job, it is questionable and depends on the accuracy of payment paid measurements, in addition to whether the bid is balanced.

The survey (Table 4.6) indicated that fifty percent of the respondents (39 out of 78) have selected the performance bond to be five percent (5%) of the contract price that is used currently in the form of a bank guarantee whereas, thirty-eight percent of the respondents selected a higher percentage of ten percent (10%) of the contract price. The percentage for other proposed values are

listed in the table.

TABLE 4.6. Frequency and Percentage of Performance Bond

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. 5% of contract price (bank guarantee).	39	50
B. 10% of contract price (bank guarantee).	30	38
C. 20% of contract price (bank guarantee).	3	4
D. 50% of contract price (bank guarantee).	1	1
E. 100% of contract price (bank guarantee)	0	0
F. 100% of contract price either bank guarantee or insurance policy	2	3
G. Others (specify): Added by the respondents	3	4
	n = 78	

The low performance bond practice considered to be a measure, by Government that has been taken to back contractors, by helping them financially and encouraging them to participate in the construction industry.

3. LABOUR AND MATERIAL PAYMENT BOND

This bond acts primarily for the protection of third parties to the contract and guarantees payment for labour and materials used or supplied in the performance of the construction and to ensure that the Owner receives a project clear of any liens for labour or materials. This bond can be issued simultaneously with a

performance bond in favor of the Owner's conditions and carries the same amount (100%) of contract price (Clough 1981).

In the Kingdom, a labour and materials payment bond is not used because the cost of such a bond is usually passed to the Owner through the bid where such payment can be controlled and monitored by not letting any Interim Payment for the contractor be paid until a clear signal of all labour wages and materials invoices are cleared.

This is not the case due to payment delay by the Owner for several months (Moe 1985). On the contrary, there may be many cases where the contractor delays paying the labours' salaries for months and many material suppliers don't get their payment till the contract is closed out.

TABLE 4.7. Frequency and Percentage of Labour & Material Payment Bond

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. Important and issued simultaneously with performance bond and carry the same percentage	30	41
B. Same as (A) but carry different percentage.	26	35
C. Not required.	15	20
G. Others (specify): Added by the respondents	3	4
	n = 74	

The survey indicated that seventy-six percent of the respondents (56 out of 74) have supported such a bond, of these; forty-one percent of them believed it is important and should be issued simultaneously with a performance bond and carry the same percentage. The other thirty-five percent of them have agreed on the same but carry a different percentage. Twenty percent of the respondents have stayed with the current practice of not requiring it.

This strong support of requiring the bond may be due to the facts that restriction of not letting any Interim payment for the contractor be paid until labours and material suppliers' invoices are cleared is impractical and defective; and it is hard to track contractors.

4. ADVANCE PAYMENT

The Owner pays the contractor advance payment after signing the contract and upon the contractor's presenting the performance bond. The amount is equivalent to a percentage of the total value of the contract. Upon the contractor receiving the payment, a bank guarantee in the name of the Owner for the sum equivalent to the advance payment is to be handled by the contractor and continues valid until the recovery of the full advance payment.

In the Kingdom, the GPLR (article 8) allows - not automatic or mandatory - the Owner to pay the contractor advance payment of 20% at a maximum of the contract value, and this has been reduced

to a maximum of 10% of the contract value, following the hand-over of the site in exchange of a bank guarantee equivalent to the same amount to be deducted from the actual dues of the contractor by the same percentage. Such a guarantee continues valid until the recovery of the full advance payment. The advance payment so effected is recovered by deducting 10% of any installment due to the contractor immediately following the bank guarantee. The advance payment is then reduced by the amount recovered by the Owner from the advance payment.

Recently, after the reduction of the advance payment to a maximum of 10% of the contract price, the number of contractors receiving such payments are minimized and the payment is released rarely.

Failure to provide an advance payment for mobilization forces the contractor prorates his cost over all of the earliest items of construction to get as early a return as possible. Unfortunately, this also means that the bids will be unbalanced to show a disproportionately high unit cost on many early construction items. Then, in case of a quantity overrun on those items, the Owner will be paying a higher cost for the project than is necessary (Fisk 1982).

Therefore, by not making the advance payment mandatory by the Owner may result in the above mentioned situation.

TABLE 4.8. Frequency and Percentage of Advance Payment Amount

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. Varied depends on contract size.	16	20
B. The Owner abides to pay 20% of contract price to contractor.	2	3
C. The Owner abides to pay 20% of contract price to Saudi contractors and 10% to non-Saudi.	9	11
D. No advance payment required.	4	5
E. The Owner may pay 10% of contract price to the contractor (current practice).	42	53
F. Others (specify): Added by the respondents	6	8
	n = 79	

The survey of the advance payment amount indicated that twenty percent of the respondents (16 out of 79) supported the proposed practice of varying the amount of advance payment with the contract size and value; fifty-three percent of the respondents (42 out of 79) have supported to stay with the current practice of allowing - not mandatory - the Owner to pay ten percent (10%) of the contract price to the contractor. Eleven percent of the respondents thought the Owner should abide to pay the Saudi contractor 20% of contract price and 10% to non - Saudis; three percent of the respondents agreed that the Owner should abide to pay the contractor 20% of the contract price; and five percent of the respondents didn't require advance payment to the

contractor. In (others) choice, three respondents required the abidance - mandatory - of the Owner to pay the contractor 10% of the contract price. Such payment may match the mobilization cost till the first partial (monthly) payment is due.

TABLE 4.9. Frequency and Percentage of Advance Payment Time

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. After mobilization.	20	27
B. Any time during construction after signing the contract, and upon contractor request.	20	27
C. Split into two halves, 50% paid after signing the contract, the other half paid when the project half is completed, if satisfactory.	10	14
D. Paid after signing the contract (Current practice).	21	28
E. Others (specify): Added by the respondents	3	4
	n = 74	

The survey of the advance payment time showed very close results; twenty-seven percent of the respondents have supported the practice of paying the payment after mobilization and another twenty-seven percent of the respondents have supported the practice of paying at any time during construction and upon contractor request; whereas, splitting the payment into two halves, at the beginning and the middle of construction received fourteen percent of the respondents. The current practice of paying the

payment immediately after signing the contract received twenty-eight percent of the respondents.

5. SITE CONDITIONS

Changed conditions or differing site conditions is an unanticipated physical condition at the site which differ materially from those set forth in the contract or ordinarily encountered in work of the nature provided. Unforeseen conditions resulting from hurricanes, floods, abnormal rainfall, or non physical conditions are not considered to be changed conditions (Clough 1981).

In the Kingdom, GPLR circulars stated that no soil investigation report is required by the Owner and all the source of general specification, soil, and work conditions are solely contractor responsibilities and the bid will not be disqualified because the contractor didn't conduct the site conditions investigations.

The standard public works contract (article 10), site inspection requires the contractor to admit and recognize, that before submitting his offer, he had examined the site and had acquainted himself with all information as to the site's shape and nature of surroundings.

The question here is how can the tenderer manage to make a thorough estimation and be acquainted with all of the above mentioned circumstances in a short, tendering period. Tenderers

include a large contingency sum in the bid to allow for possible serious variations in the site conditions from those described in the bidding documents, or they may include an inadequate contingency value that causes them losses.

TABLE 4.10. Frequency and Percentage of Site Conditions

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. Inclusion of a changed conditions clause.	29	37
B. Comprehensive site investigation report by the Owner.	12	15
C. Interpretive report by the Owner.	11	14
D. The contractor takes the responsibility, cost and time of unknown physical conditions at the site.	27	34
	n = 79	

The survey indicated that thirty-seven percent of the respondents (29 out of 79) supported the inclusion of a changed conditions clause to the public works contract where the cost and/or time can be adjusted; the comprehensive site investigation report by Owner practice received fifteen percent of the respondents; and only fourteen percent of them supported the idea of supplying an interpretive report by the Owner. The current practice, that the contractor takes the responsibility, cost and time of unknown physical conditions at the site, received thirty-four percent of the respondents.

A reason behind such results may include that respondents believe tenderers include a large contingency sum in the bid for site conditions, which is experienced by varied bid prices. Also, a changed condition clause will eliminate risk on both sides, especially when the bidding period is short where it is hard to make a thorough site survey.

Thereupon, the inclusion of a changed condition clause to the public works contract conditions instead of the current practice of leaving the risk of cost and time on the contractor was recommended by the respondents.

6. RETAINAGE

Retainage is a sum withheld from progress payments to the contractor according to terms of the Owner / Contractor agreement. Failure to withhold sufficient retainage in the event of error default, bankruptcy, or similar events can be a serious matter. Premature payment of the contract funds by overpayment or premature release of retained funds can result in loss of the Owner's rights under the performance bond in the event that the contractor fails to perform his contractual obligations and is in default. A retainage of 10% for the entire project has been typical, although reduced percentages and other retainage arrangements are now the rule (Clough 1981).

In the Kingdom, GPLR (article M/8/B) defines the level of payment at 100% of the work performed and the payment of the last

certificate is deferred, but not less than 10% of the contract value until the preliminary acceptance of the project and until payment of Zakat and Income Taxes.

TABLE 4.11. Frequency and Percentage of Retainage

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. Hold 10% for each partial payment until all work preliminarily is delivered.	12	16
B. Same as (A) in addition to last payment.	1	1
C. Hold 10% till the project's first half completion, if satisfactory, release 5% of all retainage and Hold 5% till project completion.	11	14
D. Same as (C) but if satisfactory release all retainage & hold the last payment.	9	12
E. Hold 5% of each payment till end.	4	5
F. In addition to (E) hold the last payment.	2	3
G. No retainage.	1	1
H. Hold the last payment, not less than 10% of the contract value (current practice).	37	48
	n = 77	

The survey indicated that sixteen percent of the respondents have supported the practice of holding 10% of contract value as a retainage for each payment until all works are accepted. Fourteen percent of the respondents supported the practice of holding 10% of each payment till the project's first half is completed, then if

satisfactory, release 5% of all retainage and hold 5% till completion. Whereas, twelve percent of the respondents supported to hold 10% till the project is first completed, then if satisfactory release all retainage and hold the last payment. Holding 5% of each partial payment till the end was received by five percent of the respondents. Finally, the current practice of paying (100%) and defer the last payment, but not less than 10% of the contract value, received the highest support of respondents (48%).

The high support of the current practice may be due to the easy and simple procedure involved in such practice, and helping the contractor financially and reducing cash-flow problems for contractors which is a common one.

7. CHANGE ORDERS

A written order to the construction contractor signed by the Owner or by his representative, issued after execution of a contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. Another definition of change orders as; the supplement to the contract between the Owner and the prime contractor is prepared when additions, omissions, or changes in the work are made by the Owner that is consummated by a written document that describes the modification to be made, the change in the contract amount, and any authorized extension of contract time (Clough 1981).

In the Kingdom, GPLR (article 25) allows the Owner, during the execution of the contract, to increase the amount of the works by a proportion not exceeding ten percent (10%) of the value of the contract (formerly 20%) and may decrease the amount of works by a proportion not exceeding twenty percent (20%) of the value of the contract. GPLR (article 26) limited the changes to changes not requiring an extension in the time for completion unless it has been issued at a very late stage where it is impossible to be executed, so the additional reasonable period is added.

The recent reduction on the additional changes to a (10%) increase of the contract value has saved Treasury the Riyals especially, when the oil revenue had decreased whereas, the constructed project is much effected especially when the scope of work was not clear and known or modification was needed. Regarding time extension by preventing the contractor by GPLR from time adjustment, in case of change order, may not be fair especially since the construction contract duration in the Kingdom is relatively reasonable (Alsultan 1989) may not be long enough to accommodate the increase of work and the contractor may become reluctant and passive to any change although, benefited financially.

The survey (Table 4.12) indicated that fifty-eight percent of the respondents (43 out of 74) have supported strongly the (+20%) and (-20%) of the contract value increase and decrease. The current practice of increase by (10%) and decrease by (20%) of the contract

value as a maximum were received by thirty-one percent of the respondents (23 out of 74).

TABLE 4.12. Frequency and Percentage of Change Orders Amount

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. + 20%, - 20% of contract value.	43	58
B. + 30%, -20% of contract value.	6	8
C. + 10%, - 20% of contract value.	23	31
E. Others (specify): Added by the respondents	2	3
	n = 74	

TABLE 4.13. Frequency and Percentage of Change Orders Period

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. Change orders should have an agreed period that will be a basis for time extension.	38	49
B. Limited to changes not requiring an extension in the time for completion.	39	50
E. Others (specify): Added by the respondents	1	1
	n = 78	

The survey of the change order period showed almost equal results on both practices offered; forty-nine percent of the respondents (38 out of 78) have supported that change orders should have an agreed period that will be a basis for a time

extension whereas, the current practice of limiting the orders to changes not requiring an extension in the time for completion were received by fifty percent of the respondents (39 out of 78). The result reflects the divergent thought and experience toward time extension of change orders, and some Owners may believe that contractors usually count on change orders and they have spare time there of no time extension should be warranted.

8. PENALTY OF DELAY

Penalty of delay is defined as a sum established in a construction contract, usually as a fixed sum per day of delay, as a measure of damages incurred by the Owner due to the failure of the contractor to complete the work on schedule (Manual 1988).

In the Kingdom, GPLR (article 37) defines the method for calculating the penalty of delay on the basis of the average daily cost of the project by dividing the value of the contract by its duration as follows:-

- a. Penalty on the first part of the period of delay amounting to one quarter of the average daily cost for each day of delay until the longest of the two periods reaches fifteen days or five percent of the duration of the contract.
- b. Penalty on the second part of the period of delay amounting to half the average daily cost for each day of delay until the two parts of the longest of the two periods reaches thirty

days or ten percent of the duration of the contract.

- c. Penalty on the third part of the period of delay amounting to the full average daily cost for each day of delay following the longest of the two periods as stipulated in paragraph (b).

The total penalties should not exceed ten percent (10%) of the contract value; however, in the event the Owner considers that the delayed part does not prevent the full use of the work on the due date of completion and does not cause any inconvenience in the use of other facilities and does not affect the accomplished part of the work in an adverse manner, the total penalties should not exceed ten percent (10%) of the value of delayed works.

The majority of the public Owners believed that the current delay penalty percentage (10% at max.) in public works contract is low and a high percentage of the public projects (Approx. 75%) are delayed and penalized (CAS 1989).

The survey (Table 4.14) indicated that sixteen percent of the respondents supported using the current method but not to be limited to (10%) of contract value as maximum penalty; nine percent of the respondents agreed to use the current method with the (10%) of contract value maximum penalty but to be dispersed to (25%) of contract duration whereas, sixteen percent of the respondents also agreed on what has been just mentioned plus another (5%) penalty applied for exceeded time provided (greater than 25% of contract duration). Twelve percent of the respondents have supported the

increase of the penalty to (20%) of contract value; therefore a total of fifty-three percent supported some mean of increase in the penalty amount. The current practice received thirty-four percent of the respondents (25 out of 75) that formed the highest support among all practices. Although the collective results can be interpreted as a desired by Owner representative to increase the delay penalty amount, the current practice received the highest percentage as individual choice.

TABLE 4.14. Frequency and Percentage of Penalty of Delay

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. Using the current method but not limited to 10% max.	12	16
B. Max. 10% penalty but dispersed to 25% of contract duration.	7	9
C. In addition to (B) another 5% penalty applied for exceeded time provided (> 25% of contract duration).	12	16
D. Increase the penalty to 20% of contract value.	9	12
E. Decrease the penalty to 5% of contract value.	2	3
F. No penalty.	1	1
G. Current practice.	25	34
H. Others (specify): Added by the respondents	7	9
	n = 75	

9. INSURANCE

The contractor must provide insurance for his own acts, those of the subcontractors, or anyone for whom the contractor may be held liable. Worker's compensation, property damage and third party liabilities are provided in certificate forms satisfactory to the Owner. Various types of coverages may be needed (Clough 1981) such as:-

- Workmen's compensation insurance.
- Builder's risk, contractor all risk, insurance.
- Contractor's public liability and property damage insurance.
- Comprehensive general liability.

In the Kingdom, the standard public works contract (article 12/5) requires the contractor - upon signing any contract whose value exceeds Five Million Riyals - to submit to the competent Government authority the necessary insurance policy that indicates that he has insured the project and its basic components during its implementation and up to the date of preliminary hand-over by means of a national insurance company. The standard public works contract contains it without further explanation of the risks included and excluded in the policy itself such as third party liability, stored materials and others.

GPLR (article 30) states that the contractor is liable for the total or partial collapse of the construction erected by him if this occurs within ten years from the date on which such

constructions were handed over to the Administration Authority, if the collapse was due to a defect in the work, save when the contracting parties have agreed that the construction should last for a shorter period.

Thus, the coverage of the third party liability is not required during construction and during the ten year warrantee. Also, no insurance policy is required regarding the ten year warrantee for the structure (contractual obligation is required only).

TABLE 4.15. Frequency and Percentage of Project Insurance

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. Contractor abides during signing any contract to buy contractor's all risk & public liability insurance policy that covers all project components and expected risks including third party liability.	28	40
B. All risks and public liability policy provided by the Owner.	1	1
C. Contractor abides during signing the contract of five millions Riyals to buy an insurance policy covering the project & its basic components (current practice)	37	53
D. Others (specify): Added by the respondents	4	6
	n = 70	

The survey indicated that forty percent of the respondents (28 out of 70) have supported the practice of abiding the contractor, during signing any contract, to buy contractor's all

risk and public liability insurance policy that covers all project components and expected risks including third party liability. The current practice were chosen by fifty-three percent of the respondents (37 out of 70).

The result shows that, the current practice is the preferred, although a high number of respondents supported the proposed practice of requiring the contractor to provide a contractor's all risk and public liability insurance policy.

TABLE 4.16. Frequency and Percentage of Workmen Insurance

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT (%)
A. Workmen's compensation insurance policy provided by the contractors.	25	33
B. Self-insurer if the contractor can provide satisfactory evidence of its financial ability to do so.	6	8
C. Workmen's compensation insurance policy provided by the Owner.	1	1
B. The Contractors have to pay monthly G.O.S.I. 2% of the workmen salary, then G.O.S.I. compensates the workmen in case of injury, disability and death (current practice).	44	58
	n = 76	

The survey on workmen insurance indicated that thirty-three percent of the respondents (25 out of 76) supported the practice of allowing the contractor to submit workmen's compensation insurance policy whereas the current practice, of keeping

General Organization of Social Insurance (GOSI) to do the insurance job, were received by the dominant fifty-eight percent of the respondents (44 out of 76). This is due to facts that the huge number of work forces in the Kingdom made it necessary, controllable and beneficial to be done by the Government (GOSI), and is well organized and trusted more than insurance firms.

TABLE 4.17. Frequency and Percentage of Decennial Insurance

PROPOSED PRACTICE	FREQUENCY (# OF RESP.)	PERCENT. (%)
A. Insurance policy covers the structure & third party liability for ten years.	32	40
B. No policy required only contractual warrantee for ten years (current practice).	45	57
C. Others (specify): Added by the respondents	2	3
	n = 79	

The survey indicated that forty percent of the respondents (32 out of 79) have supported the practice of allowing the contractor to submit an insurance policy that covers the structure and, in addition, a third party liability for ten years from the preliminary acceptance whereas, fifty-seven percent of the respondents supported the current practice of not requiring an insurance policy.

4.2.3 CONTRACT ADMINISTRATION

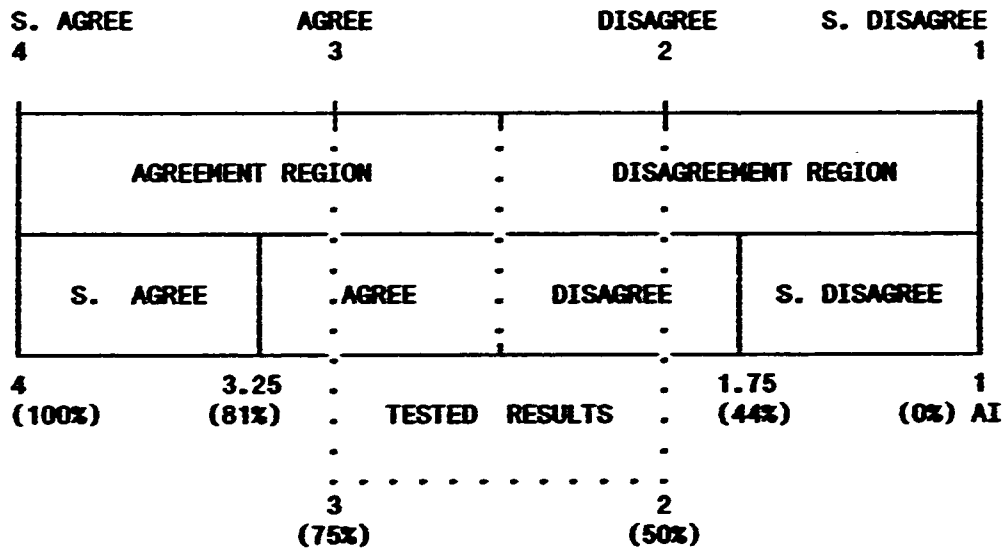
Twenty-two, ordinal scale, statements formed the third part of the questionnaire. These statements were evaluated using ranges from 4 (strongly agree) to 1 (strongly disagree). The respondents were asked to check on each of them and to consider the degree of agreement of each. For statistical analysis the following values were assigned to each response (degree of agreement):

- Strongly Agree 4
- Agree 3
- Disagree 2
- Strongly Disagree 1

In order to make the results more understandable, the following mean ranges were specified:

TABLE 4.18. Contract Administration Mean & Agreement Index ranges

SCALE DESCRIPTION	MEAN RANGE	AGREEMENT INDEX (%)
Strongly Disagree	1.00 - 1.75	0 - 44
Disagree	1.76 - 2.00	45 - 50
Results to be Tested	2.01 - 2.99	51 - 74
Agree	3.00 - 3.25	75 - 81
Strongly Agree	3.26 - 4.00	82 - 100



The mean of each variable was measured using the above ranges. Ranking method was used to obtain an agreement index that simplified and reduced all numbers to a range from 0 to 100, with a base of 100, for relative comparison.

$$\text{The Agreement Index (AI) (\%)} = \frac{4(n_1) + 3(n_2) + 2(n_3) + 1(n_4)}{4(n_1+n_2+n_3+n_4)} * 100$$

Since the specified mean ranges don't coincide with the actual assigned response values Dr. Munir Ahmed (Math. Dept.) recommended that a mean range, between 2.0 and 3.0, which may have two possible opposite answers, is to be tested.

Student - t distribution Hypothesis testing was used to test results greater than 2.0 and less than 3.0. The procedure which is followed is to set up a Null Hypothesis (H₀) and alternative

Hypothesis (H_i):

$$H_0 : X' = 2.0$$

$$H_i : X' > 2.0$$

$$\text{if } t \text{ (calculated)} = \frac{X - X'}{S / \sqrt{n}} > t \text{ (tabulated)}$$

Then, the Null Hypothesis (H₀) can be rejected.

The following tables presents the complete results of Contract Administration part.

TABLE 4.19. Contract Administration

Q #	# OF RESP. FREQ.	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	STA. DEV.	AGREE- MENT INDEX
		FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%			
1	77 *	2	2.60	38	49.35	35	45.45	2	2.60	2.52	0.25	62.99
2	77	16	20.78	49	63.64	12	15.58	0	0.00	3.05	0.16	76.30
3	79	55	69.62	20	25.32	4	5.06	0	0.00	3.65	0.20	91.14
4	78	31	39.74	30	38.46	12	15.38	5	6.41	3.12	0.29	77.88
5	74 *	3	4.05	41	55.41	29	39.19	1	1.35	2.62	0.26	65.54
6	74 *	2	2.70	25	33.78	45	60.81	2	2.70	2.36	0.26	59.12
7	80	25	31.25	47	58.75	7	8.75	1	1.25	3.20	0.29	80.00
8	80 *	7	8.75	31	38.75	34	42.50	8	10.00	2.46	0.25	61.56
9	80 *	5	6.25	33	41.25	37	46.25	5	6.25	2.48	0.25	61.88
10	80	19	23.75	46	57.50	13	16.25	2	2.50	3.03	0.28	75.63
11	80	26	32.50	47	58.75	7	8.75	0	0.00	3.24	0.16	80.94
12	80	36	45.00	42	52.50	2	2.50	0	0.00	3.43	0.18	85.63
13	79	22	27.85	45	56.96	11	13.92	1	1.27	3.11	0.29	77.85
14	79	14	17.72	52	65.82	13	16.46	0	0.00	3.01	0.16	75.32
15	69 *	9	13.04	28	40.58	25	36.23	7	10.14	2.57	0.27	64.13
16	79	51	64.56	26	32.91	2	2.53	0	0.00	3.62	0.20	90.51
17	80	50	62.50	30	37.50	0	0.00	0	0.00	3.63	0.08	90.63
18	80	54	67.50	26	32.50	0	0.00	0	0.00	3.68	0.08	91.88
19	80	40	50.00	35	43.75	4	5.00	1	1.25	3.43	0.32	85.63
20	80	43	53.75	30	37.50	6	7.50	1	1.25	3.44	0.33	85.94
21	80	47	58.75	32	40.00	1	1.25	0	0.00	3.58	0.19	89.38
22	80	54	67.50	25	31.25	1	1.25	0	0.00	3.66	0.20	91.56

TABLE 4.20. Contract Administration Ranks

RANK	Q. #	AGREE. INDEX (%)
1	18	91.88
2	22	91.56
3	3	91.14
4	17	90.63
5	16	90.51
6	21	89.38
7	20	85.94
8	19	85.63
9	12	85.63
10	11	80.94
11	7	80.00
12	4	77.88
13	13	77.85
14	2	76.30
15	10	75.63
16	14	75.32
17	5	65.54
18	15	64.13
19	1	62.99
20	9	61.88
21	8	61.56
22	6	59.12

Fig. 4 Contract Administration Agreement Index (%) Distribution

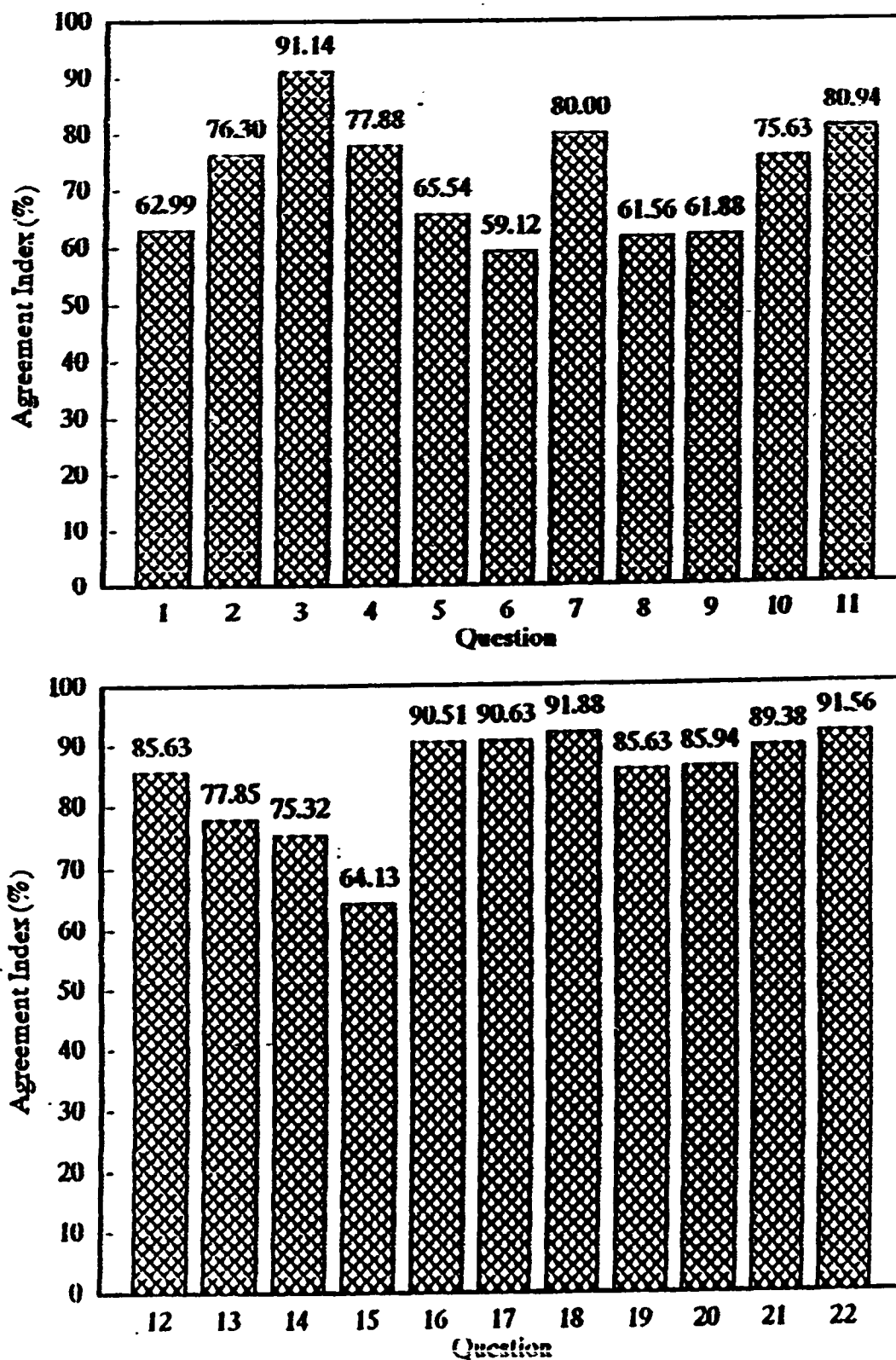


Fig. 5 Contract Administration 4-Level Distribution (Q. # 1-8)

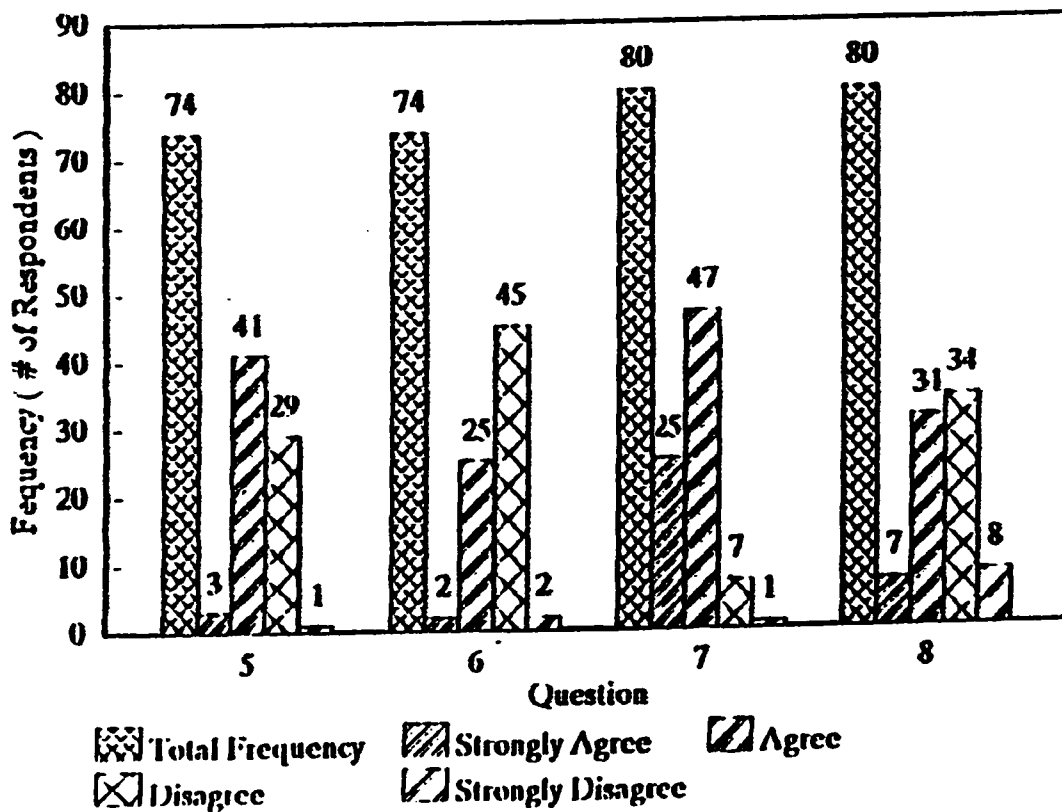
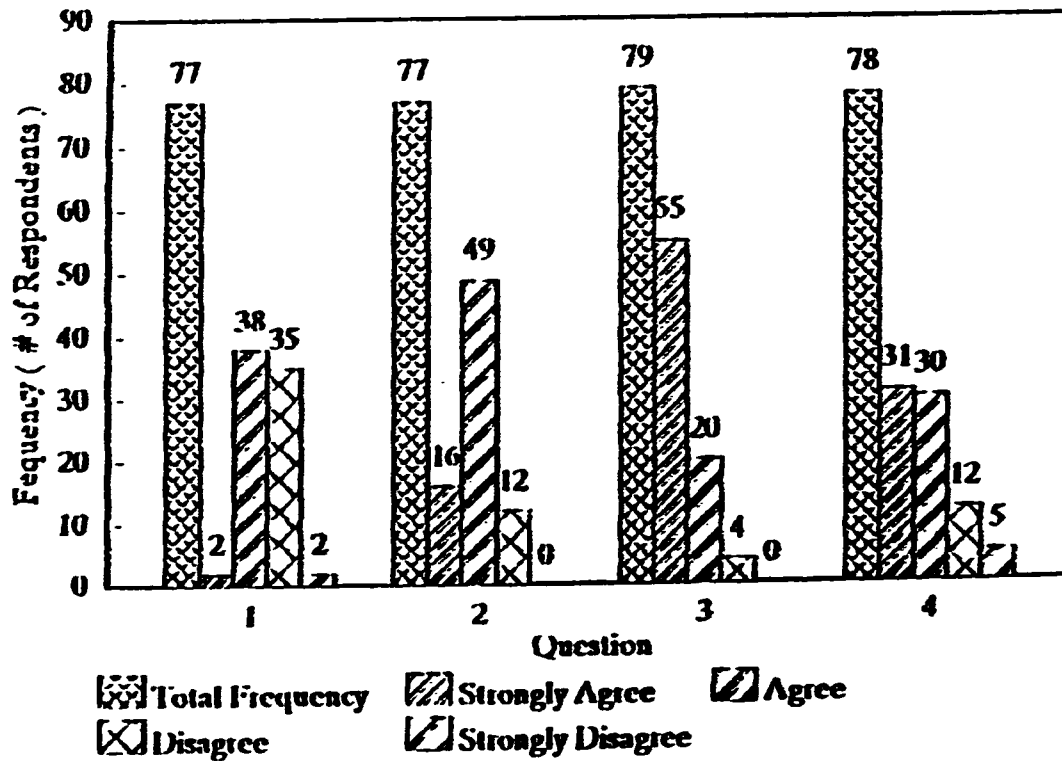


Fig. 6 Contract Administration 4-Level Distribution (Q. # 9-16)

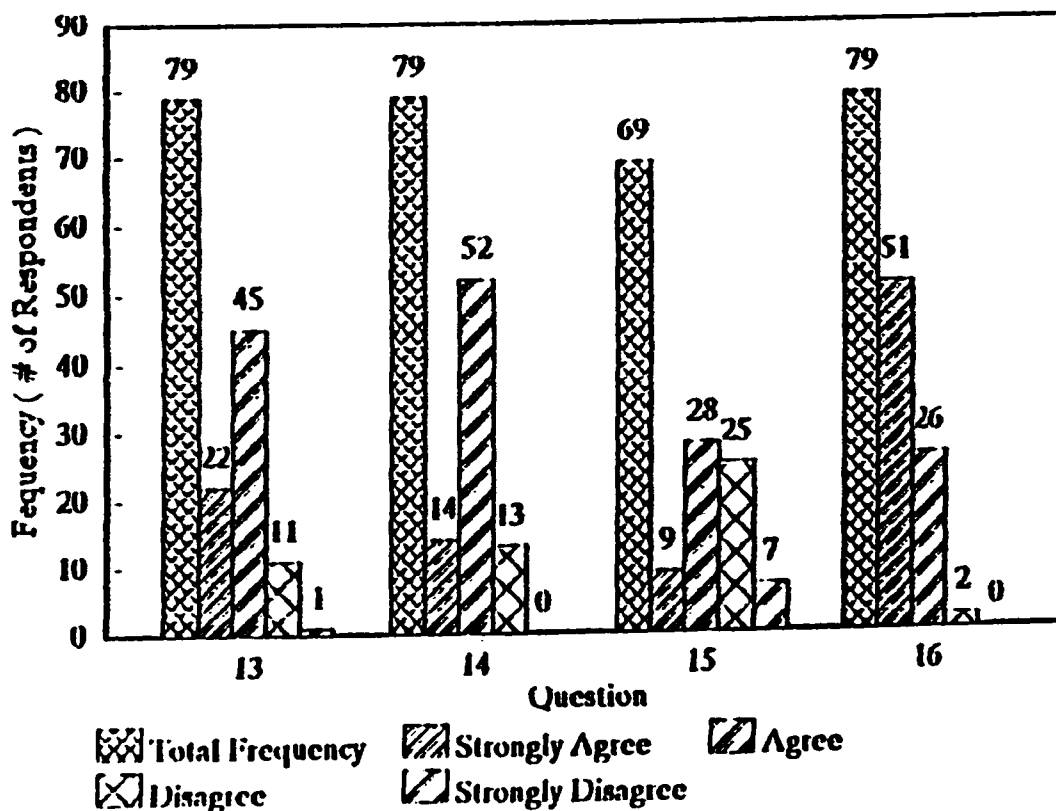
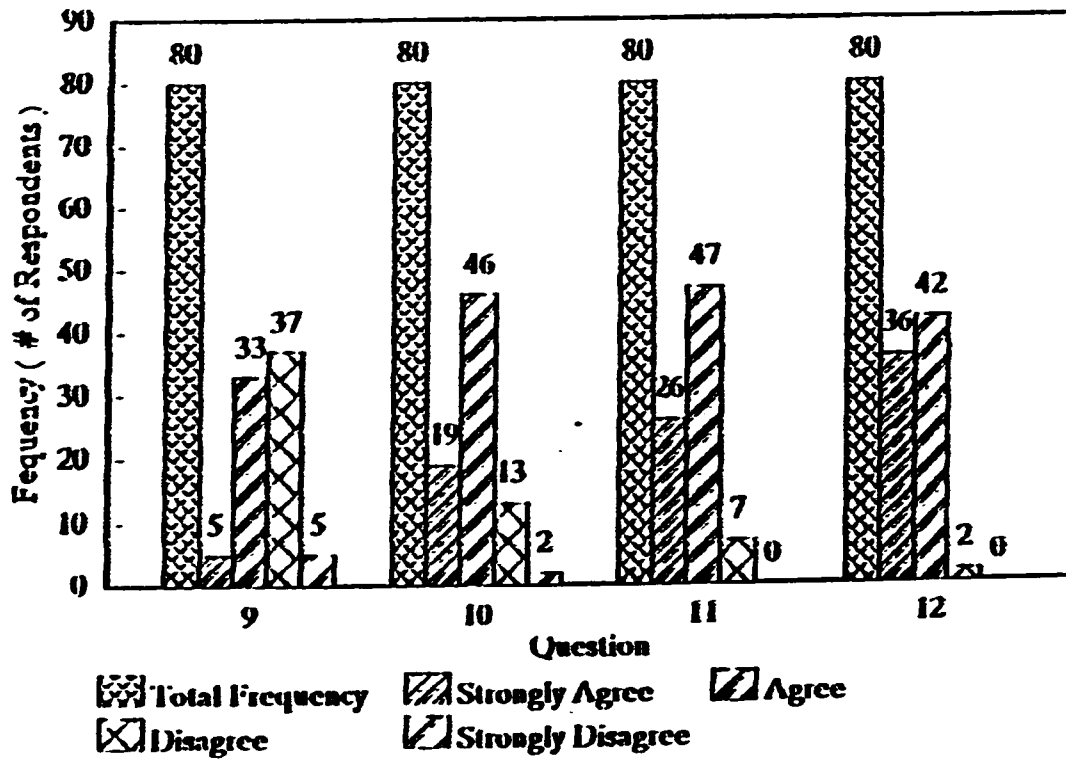


Fig. 7 Contract Administration 4-Level Distribution (Q. # 17-22)

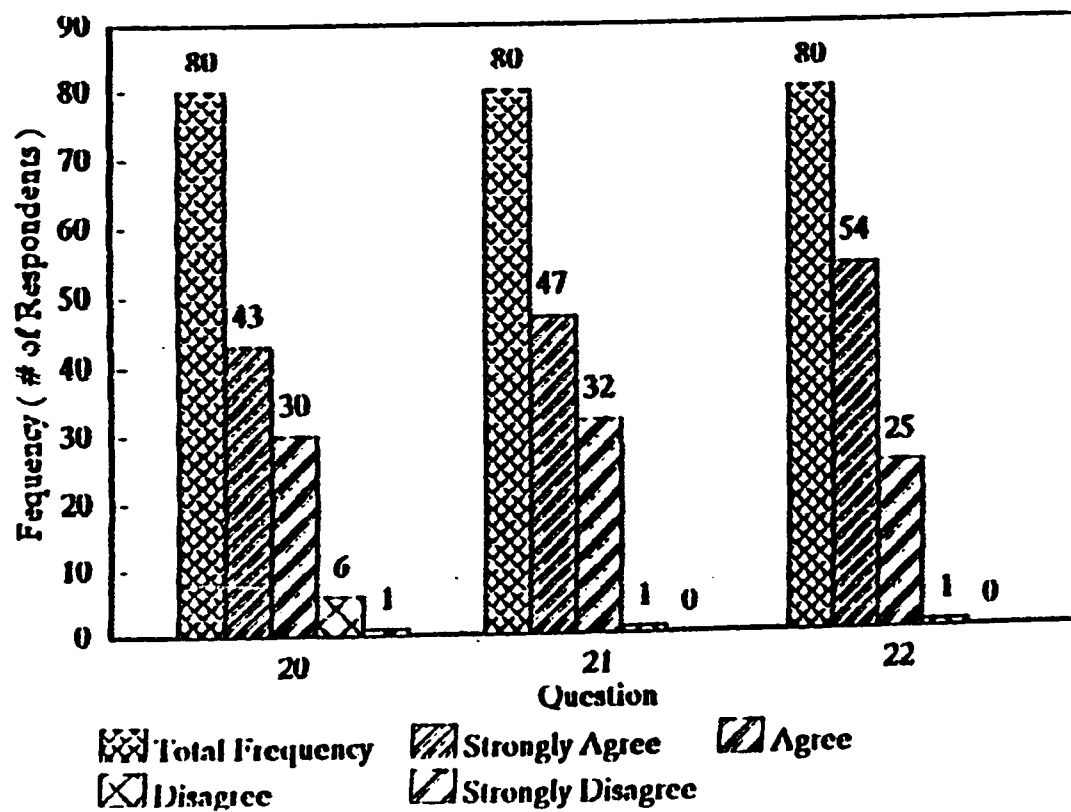
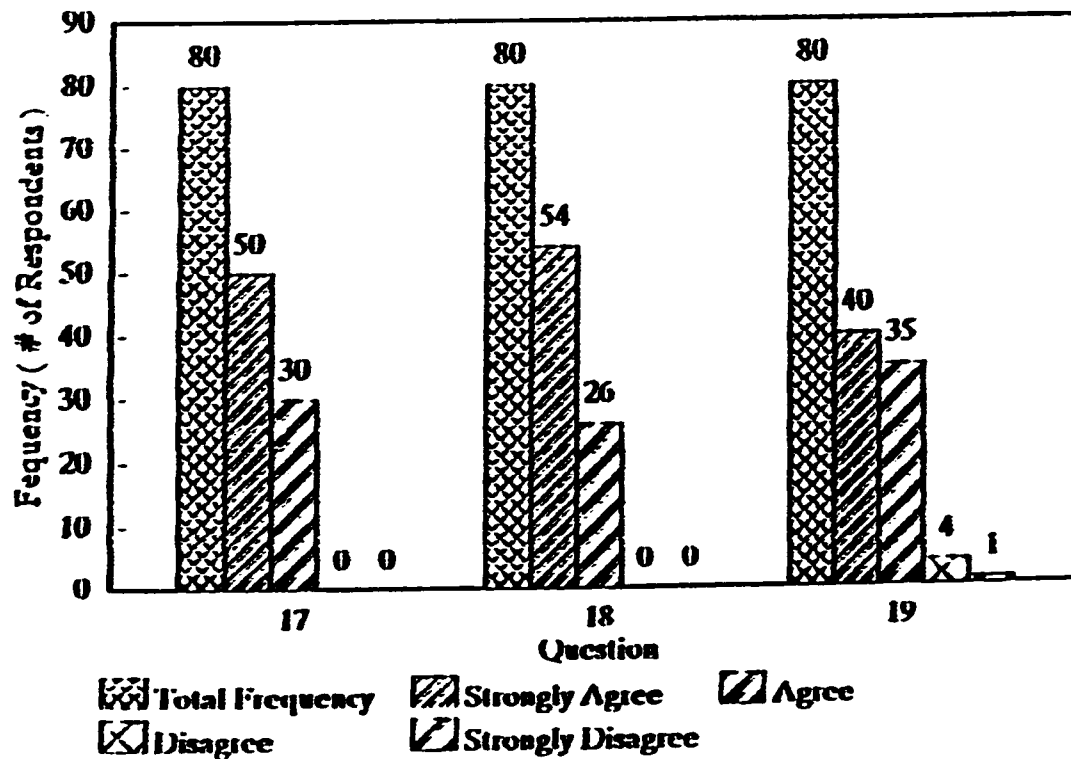
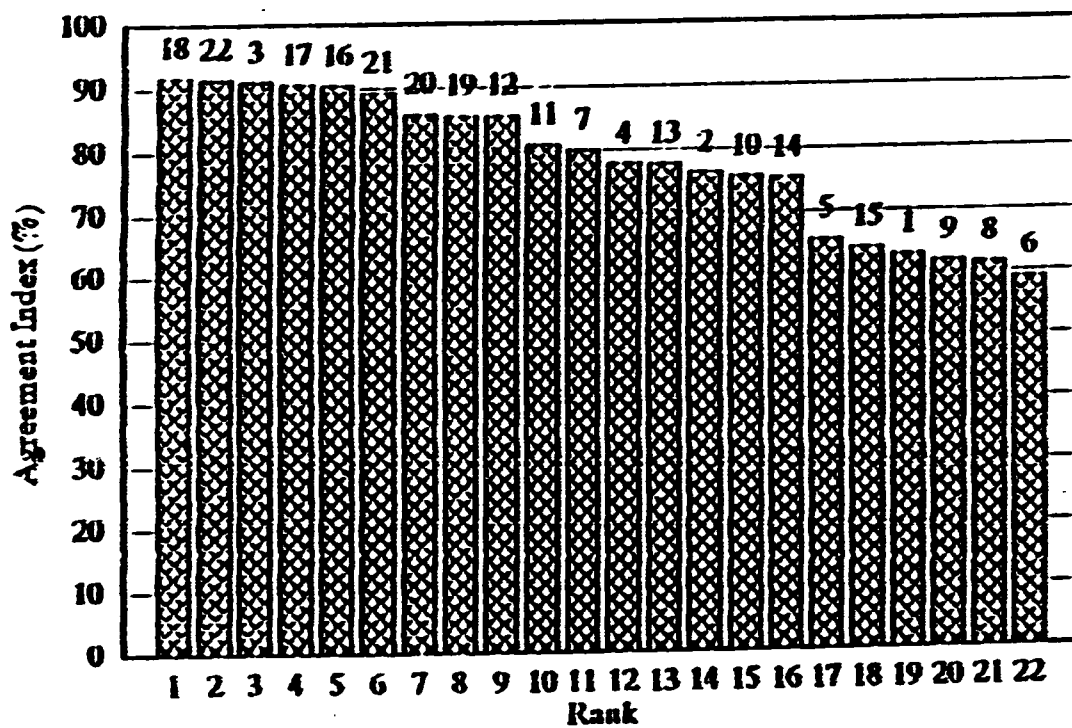


Fig. 8 Contract Administration by Rank



question # above dataline

1. GPLR MANUAL

GPLR includes fourteen articles establishing the basic laws and rules for Government tendering and forty articles of regulation that explain in detail the basic laws. It was published in 1977; edited in 1980, 1982 & 1985; and revised through directives and explanatory circulars issued, by the Ministry of Finance and National Economy to the competent departments, in letter forms only, and considered as an integral part of it.

The aim of the first question is to find out how clear and complete are the articles related to construction in the GPLR.

1. GPLR articles, related to construction contract have no short-coming, ambiguities and contradictions.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
77	2	2.60	38	49.35	35	45.45	2	2.60	2.52	63

The survey indicated that two and thirty-eight respondents have selected "strongly agree" and "agree" choices respectively whereas, thirty-five and two respondents selected the "disagree" and "strongly disagree" choices respectively. The mean was equal to 2.52 and the agreement Index (AI) was equal to sixty-three percent (63%). The statement result was tested and considered to be within the agreed range.

The results showed contradicting opinions toward the shortcoming and ambiguities of GPLR articles and the reasoning behind it could be that respondents have different interpretations and experiences of such legislation.

Thereupon, the results reflected that the respondents have supported, by a very small margin, the statement that GPLR articles related to construction have no shortcoming, ambiguities and contradictions.

The second question was aimed to find out if some of the current GPLR articles need revision or modification.

2. Evaluation, revision and/or modification some of the current GPLR articles, related to construction contract, are needed.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
77	16	20.78	49	63.64	12	15.58	0	0.00	3.05	76

The survey indicated that sixteen and forty-nine respondents have ticked "strongly agree" and "agree" choices respectively whereas, only twelve respondents ticked the "disagree" choice. The mean value was equal to 3.05 and the agreement Index (AI) reached seventy-six percent (76%). The statement falls into the "agree" range.

These results emphasized the need of evaluating and revising some of the GPLR articles related to construction. The reason

behind such a need could be that these articles had been published in 1977 during the boom period when developing the basic infrastructure was needed urgently and the cost of construction hadn't been given top priority; and these articles become less effective as new cases have occurred that were not practiced before.

The aim of the third question is to find out how important it is to update the information in the GPLR.

3. Ministry of Finance should issue annual updated GPLR manual and it should be distributed to all competent Government Departments.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
79	55	69.62	20	25.32	4	5.06	0	0.00	3.65	91

The survey indicated that fifty-five and twenty respondents have selected "strongly agree" and "agree" choices respectively whereas, only four respondents ticked the "disagree" choice. The mean was equal to 3.65 and the agreement Index reached ninety-one percent (91%) as the statement fell in the "strongly agree" range.

These results emphasized the importance of issuing the manual periodically and the reasoning behind it could be that no updated GPLR has been issued since 1985 where seven year circulars till 1992 have been scattered making it hard to recall the circulars when they are filed. Also, by using an old edition of GPLR by the concerned personnel may cause contract administration problems

especially when they don't receive the circulars on time.

The fourth question was aimed at finding out how important it is to revise the GPLR and its subsequent circulars in articles and sub-articles form only.

4. GPLR should be revised to contain only articles and sub-articles. And all subsequent directives and explanatory circulars sub-articized under the corresponding articles.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
78	31	39.74	30	38.46	12	15.38	5	6.41	3.12	78

The survey indicated that thirty-one and thirty respondents have selected "strongly agree" and "agree" choices whereas, twelve and five respondents "disagreed" and "strongly disagreed" respectively. The mean value was equal to 3.12 and the agreement Index (AI) reached seventy-eight percent (78%). Therefore, the statement fell into the "agree" range.

The results have emphasized the importance of revising the GPLR in articles and sub-articles form where all subsequent directives, explanatory circulars and the questions raised by some concerned departments are sub-articized under the corresponding articles. The reason behind such results could be that it becomes hard to search for a specific revised regulation in the manual among the directives, explanatory circulars and the questions and answers by the Ministry of Finance; in addition, most of the circulars are in

letter form which are quite long and it might have more than one interpretation.

2. STANDARD PUBLIC WORKS CONTRACT

Recently (1988), the first standard contract form "Standard Public Works Contract" was issued in compliance with the GPLR (article 10 of the law).

The contract conditions clauses have some vagueness such as period of contract clause that doesn't specify whether it is in calendar days or in working days (insert contract period in terms of days), a site inspection clause, escape clauses and others; and it has a shortcoming such as the absence of important clauses related to quality improvement, cost reduction, safety and others.

The fifth question is aimed at finding out how complete and clear is the standard public works contract.

5. The standard public works contract is complete, clear and has no shortcoming, ambiguities and contradictions.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
74	3	4.05	41	55.41	29	39.19	1	1.35	2.62	66

The survey indicated that three and forty-one respondents have ticked "strongly agree" and "agree" whereas, twenty-nine and one respondent ticked "disagreed" and "strongly disagreed" respectively.

The mean value was equal to 2.62 and the agreement Index reached sixty-six percent (66%). The test put the statement within the "agree" range.

These results are supporting the statement that the standard public works contract is clear and complete although by a small margin. The reason behind the support may be due to the conformity of its clauses to GPLR and its subsequent circulars plus it is the first standard contract form issued in the Kingdom; whereas, the low support may be due to the disparity of the interpretation of the contract clauses; and from respondent participation (74 out of 80) showing that some respondents haven't used it nor reviewed it because of its late issuance.

The sixth question is aimed at finding out the link between the standard public works contract and the problems that arise during contract administration.

6. Most of the problems arising during contract administration are due to vagueness and impracticality in particular construction contract clauses.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
74	2	2.70	25	33.78	45	60.81	2	2.70	2.36	59

The survey indicated that two and twenty-five respondents have selected "strongly agree" and "agree" choices, whereas forty-five and two respondents chose "disagree" and "strongly disagree"

choices respectively. The mean value was equal to 2.36 and the agreement Index (AI) reached fifty-nine percent (59%). The statement, after testing, fell into the "agree" range. The reason behind these results could be the same reasons in the previous question (5) which have influenced this question because of a very close relationship between them especially - in frequency distribution, who agreed in question (5) has disagreed in (6). Both questions fell within an almost equal margin into the "agree" and the "disagree" ranges in question (5) and question (6) respectively.

The seventh question is to find out how helpful it is to use the other countries experience in developing our contract documents.

7. Use the other Countries experience during the development of the construction contract documents in the Kingdom.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	25	31.25	47	58.75	7	8.75	1	1.25	3.20	80

The survey indicated that twenty-five and forty-seven respondents have selected "strongly agree" and "agree" choices whereas, seven and one respondents ticked the "disagree" and "strongly disagree" choices respectively. The mean value was equal to 3.20 and agreement Index (AI) reached eighty percent (80%). The statement fell into very high "agree" range.

These results emphasized that it is helpful and important to use the other countries experience in developing the contract documents

in the Kingdom and the reasoning behind this could be that the others experiences and knowledges such as the U.S.A. in developing, preparing and administering the construction contracts documents are Nationally and Internationally recognized and the standardized documents have extensively been used for decades there whereas, our own experience, when compared to other countries, is new.

Therefore, using such experiences during preparation of the contract documents were highly recommended by the respondents.

3. PAYMENTS

Partial payments or progress payments are dictated in the payment clause and the exact basis for these partial payments is normally spelled out in the contract documents. It may be based on work in place, materials purchased, manhours worked, or a number of other factors. To maintain a good cash flow most organizations require that payments on construction projects be programmed in advance and that most circumstances be put in monthly intervals and called monthly payments. This allows the contractors to manage the cash flow and maximize the benefit that can be received from cash on hand (Frein 1980).

In the Kingdom, GPLR Article M/8/B allows the Owner to pay interim payments to the contractor for the executed works by measurements and in accordance with the units prices agreed upon in the Bill of Quantities (BOQ) and on the presentation of invoices approved by the Engineer and accepted by the Owner, provided that

amounts due to the Owner from the contractor are deducted therefrom in addition to the percentage deduction against advance payment if paid to the contract sum.

In the standard public works contract (article 50) payment is stated to be the amount due to the contractor as per the works that have been accomplished and the payment certificates approved by the consultant or technical agency overseeing the project are paid periodically at the rate of at least one certificate per month.

The eighth question was aimed at finding out whether or not the contractors monthly progress payment is paid on time.

8. Contractors monthly payments paid on time.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	7	8.75	31	38.75	34	42.50	8	10.00	2.46	62

The survey indicated that seven and thirty-one respondents have chosen "strongly agree" and "agree" choices whereas, thirty-four and eight respondents selected the "disagree" and "strongly disagree" choices respectively. The mean value was equal to 2.46 and the agreement Index (AI) reached sixty-two percent (62%) that placed the statement, by test, in the "agree" range.

These results have expressed, by fractional margin, the respondents displeasure and grumble on the delay of contractors monthly

payments. This delay is a dilemma that could happen due to Owner or contractor caused delay such as the disobedience of contractual obligation by contractor or frustration of processing such payments by the Owner's Financial Department; for instance, payment transactions are paused during Hajj and the transition period between Fiscal Years.

The ninth question was aimed at finding out whether or not the procedure of the payment are easy.

9. The procedures of processing the contractors monthly payments are easy.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	5	6.25	33	41.25	37	46.25	5	6.25	2.48	62

The survey indicated that five and thirty-three respondents have chosen "strongly agree" and "agree" choices whereas, thirty-seven and five respondents chose "disagree" and "strongly disagree" choices respectively. The mean value was equal to 2.48 and the agreement Index (AI) reached sixty-two (62%), which put the statement, by test, in the "agree" range.

These result have expressed again - by fractional margin - the respondent's displeasure and grumble on the procedures of processing the contractors monthly payment that could be difficult, long, complicated or impractical. Some reasons mentioned in question (8)

contributed to this question, i.e. Hajj holiday and a Fiscal Years transition period (2 months). Another example of hard payment procedure is the cancelation of paying 75% of the cost of equipment and material delivered - by recent circular - where such material and equipment are paid when installed only, that lead contractors to delay its purchase orders.

The tenth question was aimed at finding out a way that reduces and minimizes the delayed payment by offering a new proposed practice.

10. The Owner should cut back on the amounts paid on contractors requisitions, rather than hold up the entire payment in case of inadequate invoice preparation.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	19	23.75	46	57.50	13	16.25	2	2.50	3.03	76

The survey indicated that nineteen and forty-six respondents have ticked the "strongly agree" and "agree" boxes whereas, thirteen and two respondents have ticked the "disagree" and "strongly disagree" boxes respectively. The mean value was equal to 3.03 and the agreement Index reached seventy-six percent (76%) that put the statement in a high "agree" range.

These results emphasized the importance of finding a solution to the current practice of holding up the entire payment in case of inadequate invoice preparation, by cutting back on the amount paid

on contractors requisitions. The delayed payment due to incomplete payment request such as absence of any required administrative document becomes a common practice; and by holding back on the amounts paid, even overstated, and release of the remaining amount will keep enough cash flow in the hand of contractor that at least covers labor wages and other important expenses.

The eleventh question was aimed at solving the contractor's losses incurred by delay in payment by the Owners.

11. The Owner reimburses the contractor for any extra expense caused by delay in payment by the Owner.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	26	32.50	47	58.75	7	8.75	0	0.00	3.24	81

The survey indicated that twenty-six and forty-seven respondents filled the "strongly agree" and "agree" spaces respectively whereas, only seven respondents disagreed. The mean value was equal to 3.24 and the agreement Index (AI) reached eighty-one percent (81%). The statement fell into a very high "agree" range.

These results emphasized the Owner reimbursement of the contractor for any extra expense caused by delay in payment by him; and the reasoning behind such support could be that sometimes contractors borrowed money from banks, to furnish enough cash flow for the executed project while their monthly payments are delayed by the

Owners. Another reason may contribute to the strong support of such practice is to restrict and decrease the Owner caused delayed payment and to mitigate and alleviate the outcome of the delayed payment to the contractor.

4. VALUE ENGINEERING

Value-Engineering (VE) is defined as: an organized effort which analyzes the functions of the products or services for the purpose of achieving the required functions at the lowest possible cost without sacrificing quality, performance and reliability (Fisk 1982).

Many public construction contracts in the U.S.A. include Value-engineering incentive clauses. In this context Value-engineering applies after the contract is awarded and is concerned with the elimination or modification of any contract provision that adds cost to a project to take advantage of the contractor's special knowledge and to cut the cost of a project to the lowest practicable level without compromising its structure required performance, function, safety appearance, or sacrificing quality or reliability. In short, the contractor is encouraged to develop and submit to the Owner cost reducing proposals leading to changes in the plans or specifications. If the Owner accepts them, a change order is processed, and the savings are usually shared about equally by the Owner and the contractor (U.S.A. GSA. 1978). The net profit shared at the rate of 55% for the contractor and 45% for the Owner. The

introduction of the VE incentive clause has saved the U.S. Department of Defense more than 75,000,000 of the 1.5 billion of the annual expenditure (Al-otaishan 1985).

In the Kingdom, initial efforts for Value-engineering started in the mid-seventies by General Directorate of Military works (GDMW) in the Ministry of Defense and Aviation (MODA) (Al-otaishan 1985).

Value-engineering is not incorporated in the GPLR or standard public works contract. There are no incentives to the contractors or the Consultants to adopt this technique in public construction projects.

The twelveth question was targeted toward the importance and significance of applying the Value-engineering concept on the large project where the potentiality of savings may be high by implementing and encouraging contractors by incentives.

12. Encouraging contractors, by incentives, to use Value Engineering on large projects.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	36	45.00	42	52.50	2	2.50	0	0.00	3.43	86

The survey indicated that thirty-six and forty-two respondents chose the "strongly agree" and "agree" choices respectively whereas, only two respondents disagreed. The mean value was equal

to 3.43 and the agreement Index (AI) reached eighty-six percent (86%). The statement fell in the "strongly agree" range.

These results emphasized the use of such practice to eliminate the unnecessary cost to the constructed projects and to take advantages of contractors' special knowledge on construction methods, workmen force, materials and others; especially that most of our large projects are designed abroad where much of "gold plating" is included; and it increases the innovation skills among contractors' teams when the resulted saving are shared by both parties.

Therefore, contractors should be encouraged, by incentives to use Value-engineering on large projects.

5. LOCAL PRODUCTS AND CONTRACTORS

Lists are prepared every six months by the Ministry of Industry and Electricity detailing the National products that are suitable for Governmental purchases. A term obliging the contractor to buy the local products whenever these products become necessary for the execution of the works covered by the contract.

GPLR (article 1/E) requires the Government Departments to obtain their requirements during execution of the projects from local products although it has a lesser specification than products from abroad.

A Royal directive has been issued - circulated to its competent

departments - to all Government Departments to obtain their requirements from local products and to prepare their project specifications in a manner to permit acceptance of the products of national factories whenever these products satisfy the purpose of their requirement.

The Cabinet's Resolution (No. 124 of 1403 A.H.) requires that the foreign contractor assigns not less than 30% of the works to a Saudi Contractor and he is obliged to submit - together with his tender - the official documents pertaining to the Saudi Contractor to whom he has assigned his sub-contract. The advance payment and the interim payment for the first executed works are not be effected unless and until the foreign contractor submits a proof of his compliance with the law. However, in the event that the foreign contractor desires to assign work to the Saudi contractor in the final stages of the project then the department responsible for payments should observe non payment to the foreign contractor any amounts in excess of 50% of the total monies due to the foreign contractor under the contract agreement until proof of his compliance with the said decision has been obtained.

Saudi Economic Survey published the results obtained by a special Governmental Committee formed to follow-up on the compliance record of companies subject to the Royal Decree. The report covered 36 Government contracts awarded to 17 different non-Saudi companies for a total value of SR. 19.4 billion. Of this total value, SR. 1.7 billion or only 9.2% were subcontracted to 100%

Saudi companies, where it's a long way from 9% to 30% (Voegelé 1985).

Saudization is often a "contract deliverable" with specific targeted objectives. In the same way, many private sector firms are implementing Saudization programs at various levels of sophistication. Some Government contracting agencies have incentivized Saudization by advertising a policy that preference will be given to suppliers or Contractors showing a minimum level of Saudi manpower in their firm. To achieve the Kingdom's goal of Saudization can the private sector compete with the Government's generous benefit packages, although not as generous as before as well as attracting qualified Saudis willing to replace expats required to travel a lot or relocate? These questions are constantly being asked by companies trying to cope with Saudization. They need to be answered for Saudization to succeed (Voegelé 1985).

The thirteenth question was aimed at finding out whether or not the law requiring the contractor to use local products is being abided by Public Agencies.

13. Public Agencies abide the law requiring the contractors to use local products during contract execution.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
79	22	27.85	45	56.96	11	13.92	1	1.27	3.11	78

The survey indicated that twenty-two and forty-five respondents chose "strongly agree" and "agree" choices whereas, eleven and one respondent have selected "disagree" and "strongly disagree" choices respectively. The mean value was equal to 3.11 and the agreement Index reached seventy-eight percent (78%). The statement fell into the high "agree" range.

These results emphasized the abundance of the Government Department to such law; and the reasoning behind the results could be that the law is in the first article of GPLR (article 1/E) and in the standard public works contract (article 12/2A), in addition to the Royal directives and the Ministry of Finance circulars encouraging contractors to deal with national factories. Therefore, its importance and significance are observed by the Owners and full compliance is expected.

The fourteenth question was asked to find out whether or not a right tool was absent to implement the local product law and if so, does the law become less effective.

14. Does the absence of the right tool to implement the law that requires the contractors to use local products only during the execution of the contract make it less effective?										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
79	14	17.72	52	65.82	13	16.46	0	0.00	3.01	75

The survey indicated that fourteen and fifty-two respondents

have selected "strongly agree" and "agree" boxes respectively whereas, thirteen respondents disagreed. The mean value was equal to 3.01 and the agreement Index (AI) reached seventy-five percent (75%). The statement was fell into the "agree" range.

These results have reflected a deficiency in the implementation of such law by admitting an absence of a tool that makes the law more effective. The reasons behind the results could be that the respondents believed that there are cases of by-passing the law or ignorance by both parties; and nonexistence of one case that a penalty has been charged against a contractor gives the impression that the law is not implemented seriously. No strict implementation of the law by the Owner such as, advocating payment request with a copy of local product invoices, is being implemented.

The fifteenth question was designed to find out the extent of abiding by the 30% rule by the foreign contractors.

15. The foreign contractors don't abide to assign the 30% of the works to Saudi contractors that the law requires.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
69	9	13.04	28	40.58	25	36.23	7	10.14	2.57	64

The survey indicated that less respondents participated in this question (69 out of 80). This may be due to less involvement and participation with foreign contractors. Nine and twenty-eight

respondents have selected "strongly agree" and "agree" choices whereas, twenty-five and seven respondents chose "disagree" and "strongly disagree" respectively. The mean value was equal to 2.57 and the agreement Index (AI) reached sixty-four percent (64%). The statement fell into the "agree" range by testing.

These results reflected an agreement that foreign contractors evade the mentioned law (30% rule). The reason behind such results could be that the respondents believed that there is no strict interpretation and enforcement, by any competent financial department, of the contract clause, Royal directives, and Ministry of Finance circulars which emphasized strongly of full compliance with said law; absence of the penalty from the contract clauses in case of disobedience and no inclusion of the mentioned directives in the contract nor acquainting the contractor about them; and lack of follow up by the Owner team through lacking any chance to escape the law implementation.

The sixteenth question was aimed at finding out the importance of a gradual Saudization of contractor staffs.

16. Forcing the contractors to employ 10% of the contract Administrative and Technical staff by Saudis.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
79	51	64.56	26	32.91	2	2.53	0	0.00	3.62	91

The survey indicated that fifty-one and twenty-six respondents have selected "strongly agree" and "agree" choices respectively whereas, only two respondents have disagreed. The mean value was equal to 3.62 and the agreement Index (AI) reached ninety-one percent (91%), among the highest surveyed. The statement is considered to be within a "strongly agree" range.

These results emphasized the exigent needs for a gradual Saudiization of contractor staffs by starting with forcing him to employ 10% of his staff at a minimum where the gained experience will be maximized and shared. Another reason of strong support of such a statement may be due to the failure of implementing "Saudi preference" where there was no enforcement of such a quote. Finally, the increased number of University and vocational graduates and experienced Engineers and Technicians are to be considered effectively in any project execution.

6. QC / QA PROGRAM

Quality Assurance (QA) is defined as : planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily and conform with project requirements. Also, it can be defined as the degree of certainty that the quality control performed for any specific job is adequate for the required quality level. Quality Control (QC) is the specific implementation of the QA program and includes checking and reviewing design and construction related activities. Effective

QC reduces the possibility of changes, mistakes, and omissions, which in turn results in fewer conflicts and disputes (Manual 1988). Quality control is also defined as the regulatory process through which a measurement is made of the actual quality performance, compare it with standards, and act on the difference (Wissa 1983).

If strict construction - related QA and QC guidelines are established, the project will be constructed according to the project's requirements, plans, and specifications. The Owner is responsible for establishing the QA program and the contractor is responsible for implementing and maintaining the construction related QC program. The Owner and the contractor should discuss the exact scope of a QA and QC program.

In order to have a free insurance certificate for project contractors against the decennial warranty required by GPLR (article 30), and to ensure a "built to last" project, the establishment of a standard QC / QA program that can be added to the standard public works contract should be considered to achieve the required goal.

The seventeenth question was aimed at finding out the importance of establishing QC / CA program and to be submitted by contractor after delivery of the site.

17. QC / QA program should be submitted by the contractor before mobilization.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	50	62.50	30	37.50	0	0.00	0	0.00	3.63	91

The survey indicated that fifty and thirty respondents have "strongly agreed" and "agreed" respectively whereas, no disagreement choices were selected. The mean value was equal to 3.63 and the agreement Index (AI) reached ninety-one percent (91%), among the highest. The statement fell into "strongly agree" range.

These results emphasized strongly on the importance and reflected a needs of implementing and adopting the QC / QA program, due to an absence of the rule from GPLR and the standard public works contract that regulate procedures that warrantee a quality end product; to achieve the level of quality established and required by specifications and desired by the Owner systematically; and to have a free insurance certificate for project contractors against the decennial warrantee required by GPLR.

7. SAFETY

Construction contracts usually contain provisions requiring the contractor to conform to all applicable laws, ordinances, rules, and regulations that relate to project safety. Subcontracts, also extend this responsibility down to the subcontractors. Contracts

with some public agencies in the U.S. and Europe, require that a contractor conform with the requirements of the safety code of that particular agency (if any). These standards constitute a contractual obligation with which the contractor must comply or be in breach of contract (Clough 1981).

Accident prevention in construction is largely a human relations problem and is achieved primarily through education, persuasion, and internal vigilance. People cause accidents, and only people can prevent them through a safety plan that emphasizes the personal approach to job safety. Because of differences in organization, type of activity, and scope of operations, each contractor must develop an accident prevention plan that fits its own particular situation and the overall responsibility for the company's safety program must be placed with an individual who is capable, energetic, qualified, and interested in safety (Clough 1981).

In the Kingdom, GPLR and the standard public works contract don't contain article(s) in regard to safety precautions nor emphasize on it whereas, construction activities are extremely hazardous undertaking and the toll of accidents is high cost and humanwise.

The eighteenth question was aimed at finding out the importance of forcing the contractor, by contract, to develop his own accident prevention (safety) plan.

18. Contractor develops his own accident prevention plan that fits his own particular situation and approved by the Owner.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	54	67.50	26	32.50	0	0.00	0	0.00	3.68	92

The survey indicated that fifty-four and twenty-six respondents ticked "strongly agree" and "agree" choices respectively whereas, the disagreement side was empty from selections. The mean value was equal to 3.68 and the agreement Index (AI) reached ninety-two percent (92%), the highest among all questions. The statement fell into the "strongly agree" range.

These results have emphasized strongly the importance of the safety plan; to assure a relatively accident - free environment instead of a high annual toll of accidents. Contractors don't abide the safety requirement due to absence of a safety code such as (OSHA) in the U.S.A. and follow up by the Owner; some contractors are not acquainted with basic safety precautions; no safety provisions are written as a part of the terms of the public works contract; no job safety inspector; and developing safety plan allows the detection and then elimination of hazards.

The nineteenth question was aimed at finding out the importance and the necessity extent of establishing a safety department to assure a full compliance by the contractor towards safety requirements.

19. Establishing "Safety Department" to assure that the contractor is in full compliance with all aspects of the contract safety requirement.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	40	50.00	35	43.75	4	5.00	1	1.25	3.43	86

The survey indicated that forty and thirty-five respondents have selected the "strongly agree" and "agree" choices whereas, four and one respondent ticked "disagree" and "strongly disagree" respectively. The mean value was equal to 3.43 and the agreement Index (AI) reached eighty-six percent (86%). The statement fell within the "strongly agree" range.

These results have shown a strong support on the importance of establishing a "safety department" and the reason behind the results could be; to have an authoritative source where codes are established, experience is exchanged and shared and contractors are assured of abidance and full compliance with all aspects of safety requirements. The safety department retains the right to be the sole safety enforcement agency within its jurisdictional borders.

8- COORDINATION

One of the reasons that support the centralization of Engineering works is the coordination among executed projects. Many European countries centralized their Engineering works in the city council or municipal council provided that the competent Government

Departments supervise their projects. This achieved the coordination among the project optimally; whereas in the Kingdom, no coordination is taking place instead many complaints have arisen in regard to the absence of the coordination among project and departments especially related to public service and utility (Zain Elabdeen 1986).

The twentieth question was aimed at finding out if the establishment of coordination department achieves the required goal of eliminating obstacles that face contractors and may cause delay.

20. Establishing "Coordination Department" to pre-coordinate between competent Government Agencies as Municipality, SCECO, PTT, Water & Sewage Org. and others where all projects obstacles are eliminated before letting projects for bidding.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	43	53.75	30	37.50	6	7.50	1	1.25	3.44	86

The survey indicated that forty-three and thirty respondents have picked "strongly agree" and "agree" choices whereas, six and one respondent ticked "disagree" and "strongly disagree" respectively. The mean value was equal to 3.44 and the agreement Index (AI) reached eighty-six percent (86%). The statement fell within "strongly agree" range.

These results emphasized the necessity of establishing a "coordination department". The reason behind such results could be

that many contractors complain to the Owner about their losses incurred as a result of delay and extra works needed, all due to the non-coordination among Government Departments and organizations such as Municipality, SCECO and others; and eliminating obstacles before bidding make works easy.

9. CONTRACT ADMINISTRATION PROGRAM

The twenty first question aimed to find out how important and helpful to initiate a program by Government Departments on Contract Administration.

21. Initiation of an in-house program by Government Departments on construction contract administration to all concerned Engineers and contract administrators, where GPLR articles are introduced and discussed, as well the construction contract documents.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	47	58.75	32	40.00	1	1.25	0	0.00	3.58	89

The survey indicated that forty-seven and thirty-two respondents selected "strongly agree" and "agree" choices respectively whereas, only one respondent disagreed. The mean value was equal to 3.58 and the agreement Index (AI) reached eighty-nine percent (89%). The statement fell in the "strongly agree" range.

These results strongly emphasized the importance of initiating such a program, and the reasoning behind such a result could be

that some Owners' representatives - Engineers and Administrators - have little or no knowledge about GPLR and / or construction contract documents; such a program will introduce the new graduates to contract administration and it would be a learning opportunity where the attendances exchanged and shared opinions and experiences and discuss problems during contract administration among themselves.

10. STANDARD CONSTRUCTION CONTRACT ADMINISTRATION MANUAL (SCAM)

Construction Contract Administration Manual has so many names such as Project Administration Manual, Project Execution Manual, Project Procedures Manual and others. The manual defines established policies and procedures and describes a desirable process for project delivery. In the United States, it is required, by contract provisions, to submit a project execution manual that is approved by the Owner. Standard manuals have appeared recently, the most recent manual is "quality in the constructed project" manual (1990) published by the American Society of Civil Engineers (ASCE). This manual describes the process for project delivery from conception through design, construction, and operations start-up; and it contains descriptions of techniques, systems methods, and procedures that enhance quality during the design and construction process.

In the Kingdom, GPLR and standard public works contract don't require such a manual. Establishing standards for the construction

industry is one major issue to be addressed in the fifth development plan as mentioned by the Ministry of Planning (1990).

The proposed Standard Construction Contract Administration Manual (SCAM) in this survey will establish the policies and the procedures to be used from tendering till contract close out for administrative personnel, site management and supervision, including all phases and aspects of contract administration. It is intended to supplement, clarify relationship, improve the overall function and expand the terms of the contract without in any manner violating its intent and stated objectives. It is an information plan designed to provide management with the information required for proper decision making process, the submission formats that the construction contract called for and the functions to be performed by personnel at the office / site. The manual is intended for use by the Owner Personnel and Contractors.

The last question aimed to find out the importance and the benefits towards a standardized manual that assists in effectively managing public construction.

22. Development of a Standard Construction Contract Administration Manual SCAM through the establishment of procedural information on how to administer the contract from tendering till contract close out and to be used by all parties involved in contract execution and administration.										
TOTAL FREQ	S. AGREE		AGREE		DISAGREE		S.DISAGREE		MEAN	AI
	FRQ.	%	FRQ.	%	FRQ.	%	FRQ.	%		
80	54	67.50	25	31.25	1	1.25	0	0.00	3.66	92

The survey indicated that fifty-four and twenty-five respondents have chosen "strongly agree" and "agree" choices respectively whereas, only one respondent disagreed. The mean value was equal to 3.66 and the agreement Index (AI) reached ninety-two percent (92%), the second highest. The statement fell in the "strongly agree" range.

These results have shown a strong support, and this may be due to the desires by the respondents to have a systematic and organized way of administering construction projects from tendering phase till contract close out; another reason behind such results could be that the manual converges all parties involved during contract execution. Finally, these results showed the strong need for a source that provides the project management with the information required for a proper decision making process.

4.2.4 RESULT FINDINGS (SUMMARY)

TABLE 4.21 TENDERING PHASE STATISTICS (FIRST AND SECOND RANKS).

Q. #	TITLE	PRACTICE	FREQ.	PERC. (%)
1	BID BOND	1% OF BID PRICE (*)	59	74
		5% OF BID PRICE	16	20
2	BIDDER'S QUALIFICATION	PRE-BID QUALIFICATION	37	47
		DOUBLE-ENVELOPE SYSTEM	30	38
3	PRE-BID CONFERENCE	REQUIRED	51	64
		NOT REQUIRED	26	32
4	CONTRACT AWARD	PROJECT ESTIMATE	45	60
		THE LOWEST BIDDER (*)	18	24

* CURRENT PRACTICE.

TABLE 4.22 CONSTRUCTION PHASE STATISTICS (FIRST AND SECOND RANKS)

Q. #	TITLE	PRACTICE	FREQ	PERC (%)
1	PRE-CONSTRUCTION CONFERENCE	MANDATORY	60	79
		ELECTIVE	13	17
2	PERFORMANCE BOND	5% OF CONTRACT PRICE (*)	39	50
		10% OF CONTRACT PRICE	30	38
3	LABOR AND MATERIAL PAYMENT BOND	IMPORTANT AND ISSUED WITH PER- FORMANCE BOND	30	41
		IMPORTANT BUT CARRY DIFFERENT PERCENTAGE	26	35
4	ADVANCE PAYMENT A. AMOUNT	THE OWNER MAY PAY 10% OF CONT- RACT PRICE TO CONTRACTOR (*)	42	53
		VARIED DEPENDS ON CONTRACT SIZE	16	20
	B. TIME	PAID AFTER CONTRACT SIGNING (*)	21	28
		AFTER MOBILIZATION	20	27
		ANY TIME AFTER CONTRACT SIGNING AND UPON CONTRACTOR REQUEST	20	27
5	SITE CONDITION	INCLUSION OF CHANGE CLAUSE	29	37
		THE CONTRACTORS HAVE THE RISK (*)	27	34
6	RETAINAGE	HOLD LAST PAYMENT BUT NOT LESS THAN 10% OF THE CONTRACT VALUE (*)	37	48
		HOLD 10% FOR EACH PAYMENT TILL END	12	16
7	CHANGE ORDERS	+ 20%, - 20%	43	58
	A. AMOUNT	+ 10%, - 20% (*)	23	31
	B. TIME	LIMITED TO CHANGES NOT REQUIRING AN EXTENSION IN THE TIME (*)	39	50
		TIME EXTENSION PROVIDED	38	49

* CURRENT PRACTICE.

Q. #	TITLE	PRACTICE	FREQ	PERC (%)
8	PENALTY OF DELAY	<i>CURRENT PRACTICE (*)</i>	25	34
		CURRENT PRACTICE BUT NO MAX. PERCENTAGE	12	16
		MAX. 10% PENALTY BUT DISPERSE TO 25% OF CONTRACT DURATION & ANOTHER 5% PENALTY IF > 25% C.D.	12	16
9	INSURANCE A. PROJECT	<i>CONTRACT > 5 MILLION (S.R.) IS TO SUBMIT INSURANCE POLICY COVERS THE PROJECT & ITS BASIC COMPONENTS (*)</i>	37	53
		ANY CONTRACT IS TO SUBMIT CONTRACTOR'S ALL RISK AND PUBLIC LIABILITY INSURANCE COVERS ALL PROJECT COMPONENTS AND EXPECTED RISKS INCLUDING THIRD PARTY LIABILITY	28	40
	B. WORKMEN	<i>CONTRACTOR PAYS GOSI 2% OF WORKMAN SALARY (*)</i>	44	58
		WORKMEN'S COMPENSATION INSURANCE POLICY BY CONTRACTOR	25	33
	C. STRUCTURE	<i>NO POLICY REQUIRED (ONLY CONTRACTUAL OBLIGATION OF 10 YEARS WARRANTY) (*)</i>	45	57
		INSURANCE POLICY COVERS THE STRUCTURE AND THIRD PARTY LIABILITY FOR TEN YEARS	32	40

* CURRENT PRACTICE.

TABLE 4.23 CONTRACT ADMINISTRATION BY RANK

RANK	Q #	DESCRIPTION	MEAN	A.I. (%)	ORDINAL SCALE
1	18	SAFETY PLAN SUBMISSION BY CONTRACTOR	3.68	92	S. AGREE
2	22	DEVELOPMENT OF CONTRACTS ADMINISTRATION MANUAL	3.66	92	S. AGREE
3	3	GPLR MANUAL UPDATING & DISTRIBUTION	3.65	91	S. AGREE
4	17	QC / QA PROGRAM SUBMISSION BY CONTRACTOR	3.63	91	S. AGREE
5	16	SAUDIAZATION (10% OF CONTRACTOR'S STAFF)	3.62	91	S. AGREE
6	21	INITIATION OF CONTRACT ADMINISTRATION PROGRAM	3.58	89	S. AGREE
7	20	ESTABLISHMENT OF "COORDINATION DEPARTMENT"	3.44	86	S. AGREE
8	19	ESTABLISHMENT OF "SAFETY DEPARTMENT"	3.43	86	S. AGREE
9	12	USE OF VALUE ENGINEERING ON LARGE PROJECTS	3.43	86	S. AGREE
10	11	REIMBURSEMENT OF CONTRACTOR FOR DELAY	3.24	81	AGREE
11	7	DEVELOPMENT OF CONTRACT DOCUMENTS	3.20	80	AGREE
12	4	GPLR ORGANIZATION & ARRANGEMENT	3.12	78	AGREE
13	13	USE OF LOCAL PRODUCTS (LP) BY CONTRACTOR	3.11	78	AGREE
14	2	GPLR EVALUATION & REVISION	3.05	76	AGREE
15	10	HOLDING UP AMOUNTS OF PAYMENTS	3.03	76	AGREE
16	14	THE ABSENCE OF A TOOL TO IMPLEMENT THE LAW OF(LP)	3.01	75	AGREE
17	5	SPWC CLEARANCE & COMPLETION	2.62	66	AGREE *
18	15	30% LAW DISOBEDIENCE BY FOREIGN CONTRACTOR	2.57	64	AGREE *
19	1	GPLR CLEARANCE & COMPLETION	2.52	63	AGREE *
20	9	PROCEDURES OF PROCESSING THE PAYMENTS ARE EASY	2.48	62	AGREE *
21	8	CONTRACTORS MONTHLY PAYMENTS PAID ON TIME	2.46	62	AGREE *
22	6	SPWC ADMINISTRATION PROBLEMS	2.36	59	AGREE *

* TESTED RESULTS.

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 SUMMARY

Public Tenders in the Kingdom are subjected to the Government Procurement Laws and Regulations (GPLR), that contains articles that govern the procurement process and form the framework of construction contract conditions and administration. These articles had been published in 1977 during the boom period when developing the basic infrastructure was needed urgently and the cost of construction had not been given top priority. Thenceforth, revision was made rarely and when a problem arose, the Ministry of Finance and National Economy circular in letter form, clarified the vagueness, in accordance to the corresponding rule article, and sent a copy of the clarification to all concerned Government agencies.

In the present development plan (1990 - 95), one of the major issues to be addressed, as mentioned by the Ministry of Planning (1990), is establishing standards for the construction Industry. One main policy that will contribute towards the achievement of the development objectives for the Saudi construction Industry are streamlining administrative procedures and developing laws and

regulations concerning construction works and activities.

Thus, there were needs to study and evaluate these articles that constitute construction contracts and to introduce and adopt measures that assist in effectively managing construction contract of public projects.

In this study, the documents and literature that contributed to GPLR articles and contract administration were presented and discussed by definition, local practice, strength and weaknesses, and discussion during bidding and construction phases and also by comparison to the practices used abroad. A questionnaire was developed to measure the opinion of the respondents toward proposed practice statements and measures related to GPLR and construction contract administration. The questionnaire was distributed to all Government Departments that have the authority to tender and / or supervise the execution of public projects and to form the population of the study. The questionnaire contains questions which are divided into three parts with its current and proposed practice activities statements for tendering and construction phases. For contract administration, statements were developed to measure the respondents' opinions toward the current and proposed practice activities. These opinions are registered on a 4-point Likert Scale ranging from "Strongly Agree" to "Strongly Disagree".

The results of this study are generated from eighty (80) responses to the questionnaire mailed to one hundred (100) Government Departments and Organizations that represent the population of the study for an overall response of (80%).

5.2 CONCLUSIONS

The survey analysis indicates and reveals the following conclusions:

A. BIDDING PHASE

1. A strong support to use the current practice of one percent (1%) of bid price as a bid bond.
2. Pre-bid qualification and Double Envelope System received high support respectively.
3. A high support to mandate holding a pre-bid conference.
4. Using a project estimate as a base for contract award was highly recommended by the respondents.

B. CONSTRUCTION PHASE

1. A strong support toward a mandatory pre-construction conference.
2. Five percent (5%) of contract price performance bond dominated over the others proposed practices.
3. Strong support of requiring labor and material payment bond.

4. The current practice of allowing the Owner to pay the contractor (10%) of contract price as an advance payment bond received the highest support. Whereas when it is best to pay such payment, showed very close results among three proposed practices of paying after signing the contract immediately (current practice), paying after mobilization, and paying at any time during construction and upon contractor request.
5. The inclusion of changed site conditions clause to the public works contract where the cost and/or time can be adjusted accordingly received enough support.
6. The current practice of retaining the last payment of the contractor but not less than (10%) of the contract value received dominant support.
7. In change Orders, the practice of increasing / decreasing the amount of the works by a proportion not exceeding (20%) of the value of the contract respectively received a strong support, whereas whether or not an extension in the time for completion is warranted has almost equal support.
8. The current method of calculating the delay penalty received enough support and the collective results showed a strong desire by the respondents to increase the penalty.
9. The current practices of project, workmen, and structure insurances have been selected over the other proposed practices.

C. CONTRACT ADMINISTRATION

1. Statements (Measures) that have received the highest ranks respectively, and fall within the "Strongly Agree" range are as follows:-

- Safety plan submission by Contractor.
- Development of Contracts Administration Manual.
- GPLR Manual updating and distribution.
- QC / QA Program submission by Contractor.
- Saudiazation (10% of Contractor's staff).
- Initiation of Contract Administration Program.
- Establishment of "Coordination Department".
- Establishment of "Safety Department".
- Use of Value engineering on large projects.

2. Statements (Measures) that have fallen in the high "Agree" range respectively are as follows:-

- Reimbursement of Contractor for delay.
- Development of Contract Documents.
- GPLR Organization and Arrangement.
- Use of local products by Contractor.
- GPLR Evaluation and Revision.
- Holding up amounts of payments.
- The absence of a tool to implement the Law of (local products).

3. Statements (Measures) that have fallen in the low "Agree" range,

after testing, respectively are as follows:-

- SPWC clearance and completion.
- 30% Law disobedience by Foreign Contractor.
- GPLR clearance and completion.
- Procedures of processing the payments are easy.
- Contractors monthly payments paid on time.
- SPWC Administration problems.

5.3 RECOMMENDATIONS

1. Legislators should consider some of the results obtained in this study for incorporation to GPLR and / or standard public works contract (SPWC).
2. GPLR Articles, including circulars, should be revised, reorganized and updated periodically, and be distributed to all competent Government Authorities. The issuance of GPLR for construction is recommended.
3. A pre-qualification technique for contractors' procurement should be developed promptly to replace the current practice.
4. A project estimate should be used as a base for budget allocations and contract awards.
5. Labor and Material payment bonds should be mandated promptly.
6. Standard public works contract (SPWC) should be revised, reorganized, clarified, indexed and translated to English properly.

7. Contractors' acquired rights of payment should be protected and facilitate its process.
8. Value engineering incentive clauses should be developed by using the other countries experience. The Ministry of Defense and Aviation (MODA) is urged to take the initiative of developing such clauses.
9. A systematic procedural method should be developed and used for strict enforcement and implementation of laws (including Royal and Ministerial Directives). Penalty and punishment should be considered in case of disobedience. Government Authorities and the Chamber of Commerce (C.O.C.) are urged to initiate and develop such methods. For instance, C.O.C. receives a copy of materials and equipment submittals for their clearance of no similar local products before the contractor proceeds procuring Foreign products.
10. GPLR should encourage a Saudization Program in the private sector by requiring the contractors dealing with Government to employ a minimum (10%) of their administrative and technical staff by Saudis.
11. Inclusion of QC/QA Program and safety plan clauses to the SPWC promptly.
12. "Safety Department" and "Coordination Department" should be established and authorized promptly.

13. Government Authorities are urged to initiate a contract administration program where consultants and contractors are invited to participate as well as competent Government personnel to discuss GPLR articles and SPWC; and to share and exchange experiences and knowledges in a harmony environment.
14. A Standard Construction Contract Administration Manual (SCAM) should be developed and used in public projects. Competent Government Authorities such as the Ministry of Housing and Public Works, Ministry of Communications and Ministry of Municipal and Rural Affairs are urged to take the initiative of developing such a manual.

5.4 RECOMMENDATIONS FOR FUTURE STUDIES

1. This study is limited to the Owner's point of view. Research could be conducted to study other related parties' point of view, such as: contractors, consultants, legal counsels or purchasing Department Directors.
2. Evaluation of standard public works contract clauses.
3. Developing a Complete Standard Construction Contract Administration Manual (SCAM).
4. Developing a construction law manual that contains all laws and regulations related to construction in the Kingdom including GPLR, SPWC, Ministerial circulars, Royal Directives, and others.

APPENDIX - A

LIST OF GOVERNMENT DEPARTMENTS

LIST OF GOVERNMENT DEPARTMENTS

1. National Guards Presidency.
2. Presidency of Youth Welfare.
3. General Organization for Ports.
4. King Abdul Aziz City for Science and Technology.
5. Royal Commission for Jubail & Yanbue.
6. Ministry of Defence & Aviation (MODA).
7. Civil Aviation.
8. Ministry of Interior.
9. Ministry of Municipal & Rural Affairs.
10. Municipality of Riyadh (Amanah).
11. Municipality of Jeddah (Amanah).
12. Municipality of Dammam (Amanah).
13. Municipality of Makkah (Amanah).
14. Municipality of Madinah (Amanah).
15. Riyadh Water Department.
16. Eastern Water Department.

17. Western Water Department.
18. Qaseem Water Department.
19. Assir Water Department.
20. Ministry of Public Works and Housing.
21. Ministry of Labour.
22. General Organization for Technical Education & Vocational Training.
23. Ministry of Health.
24. Ministry of Information.
25. Ministry of Education.
26. Presidency of Girl's Education.
27. Girl's College.
28. King Saud University.
29. King Abdul Aziz University.
30. King Fahd University of Petroleum & Minerals.
31. University of Al-emam Mohammed Bin Saud.
32. King Faisal University.
33. Um Al-qura University.

34. Islamic University.
35. Ministry of Communications.
36. Railroad Organization.
37. Ministry of Post, Telephone & Telegraph.
38. Ministry of Petroleum & Mineral Resources.
39. Ministry of Industry & Electricity.
40. Electricity Corporation.
41. Ministry of Agriculture & Water.
42. General Organization of Desalination.
43. Grain Silos & Flour Mills Organization.
44. Ministry of Pilgrims & Endowments.
45. Ministry of Finance & National Economy.

Further investigations revealed that some of the above mentioned Ministries have several Departments in the Kingdom satisfying the definition of the study population. They are as follows:

1. National Guard Presidency has three branches in Jeddah, Damman, and Al-ahsa.

2. Ministry of Interior has three main departments.
3. Royal Commission has another Administration in Yanbue.
4. Ministry of Municipal and Rural Affairs has six General directorates distributed all over the Kingdom and eight Municipalities.
5. The Ministry of Public Works has ten branches located in different provinces of the Kingdom.
6. The Ministry of Health has four main branches.
7. King Faisal University has one branch in Dammam.
8. Ministry of Communication has fourteen branches of Road Departments.
9. Ministry of P.T.T. has one main Postal Department and four main branches for telephones.

APPENDIX - B

ARABIC AND ENGLISH VERSIONS OF THE QUESTIONNAIRE

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Ministry of Higher Education

King Fahd University of Petroleum & Minerals

COLLEGE OF ENVIRONMENTAL DESIGN

Construction Engineering & Management Program



وزارة التعليم العالي

جامعة الملك فهد للبترول والمعادن

كلية تصميم البيئة

برنامج هندسة وإدارة التشييد

الرقم : ٤٧٠ / د ا ع م
التاريخ : ٢ / ٨ / ١٤١٢ هـ
التوابع : إستبانة (٧ صفحات)

سعادة مدير

السلام عليكم ورحمة الله وبركاته

نفيدكم أن برنامج هندسة وإدارة التشييد بجامعة الملك فهد للبترول والمعادن بالظهران يقوم بدراسة عن إدارة عقود المشاريع العامة في المملكة العربية السعودية تهدف الى تكوين بعض مواد نظام تأمين مشتريات الحكومة وتنفيذ مشروعاتها ولائحته التنفيذية ، ذات العلاقة باعمال التشييد .

الإستبانة المرفقة ببطيه تهدف الى إستطلاع مرثيات مدراء الإدارات الحكومية المعنية بالتنفيذ وإشراف على المشاريع العامة ، لذا نرجو من سعادتكم التكرم بإجابتها أو إحالتها الى الجهة المعنية لديكم . علما بأن الإجابات ستكون لأغراض البحث العلمي فقط وموضع السرية وسيتم تحيلها بمورثتها الإجمالية ، حيث تشكل عنصرا رئيسيا للوصول الى نتائج مفيدة وقابلة للتطبيق .

إن سرعة تجاوبكم سوف يلقي منا كل التقدير وإامتنان لما يعنيه ذلك من إسهام فعال في إنجاح هذه الدراسة .

أشكر لكم تعاونكم سلفاً

وتقبلوا تحياتنا ...

د . عبد العزيز بن عبد الرحمن بوبقيت
رئيس برنامج هندسة وإدارة التشييد
جامعة الملك فهد للبترول والمعادن
كلية تصميم البيئة
الظهران ٣١٢٦١

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Ministry of Higher Education

King Fahd University of Petroleum & Minerals

COLLEGE OF ENVIRONMENTAL DESIGN

Construction Engineering & Management Program



وزارة التعليم العالي

جامعة الملك فهد للبترول والمعادن

كلية تصميم البيئة

برنامج هندسة وإدارة التشييد

الرقم : ٤٧٠ / د ا ع م / ١
التاريخ : ٣ / ٩ / ١٤١٢ هـ
التوايح : إستبانة (٧ صفحات)

سعادة مدير

السلام عليكم ورحمة الله وبركاته

إلحاقاً لخطابنا رقم ٤٧٠ / د ا ع م / وتاريخ ١٤١٢/٨/٢ والمرفق به
الإستبانة الخاصة بالدراسة التي يقوم بها برنامج هندسة وإدارة التشييد
بالجامعة عن إدارة عقود المشاريع العامة في المملكة .

نفيدكم أنه حتى تاريخه لم ترد إلينا إجاباتكم على الإستبانة
المذكورة ، وحيث أن مشاركتكم تشكل عنصراً رئيسياً في نجاح الدراسة . لذا
نأمل منكم التكرم بتعبئة الإستبانة المرفقة ببطيه إذا لم يتم تعبئتها من
قبل ، ومن ثم إعادتها إلينا في موعد أقصاه ١٤١٢/٩/٢١ هـ .

شاكرين لكم حسن تعاونكم معنا ...
ولكم فائق التحية والتقدير ...

د . عبد العزيز بن عبد الرحمن بوبشيت
رئيس برنامج هندسة وإدارة التشييد
جامعة الملك فهد للبترول والمعادن
كلية تصميم البيئة
القطران ٣١٢٦١

ملاحظات	
إرشادات تمبثا : إستبانة :-	
برجى : إطلاع على الإرشادات الثانية قبل تمبثا : إستبانة :-	
١ - تتكون : إستبانة من ثلاثا اجزاء :	
الجزء الاول : مرحلة المناقشة	
الجزء الثاني : مرحلة تنفيذ العقد	
الجزء الثالث : إدارة العقد	
يجب قراءة جميع المبررات الواردة في الإستبانة بدلا قبل البتده في الإجابة ، ثم برجى وضع علامة (✓) في المكان المناسب الذي يخلق وإجابتك ، فإن لم تجد الإجابة التي تمثل رأيك يمكنك ، كتابتها في الفراغ - اخرى (حدد) - المفضل لذلك وبسط واضح ، كما تتطلب الإجابة على الجزء الثالث تحديد درجة الموافقة حيث وضعت لها أربع درجات هي:	
اولا بخدا - تعني اعلى درجة ممكنة من الموافقة لعلمر ما .	
اولا - تعني الموافقة ولكن بدرجاة أقل من سابقه .	
لا اوافق - تعني عدم الموافقة أي الممارعة لعلمر ما .	
لا اوافق بخدا - تعني اعلى درجة ممكنة من الممارعة لذلك العلمر .	
٢ - يكون تمبثا : إستبانة مدراء : لإدارات الحكومية المعنية بالتبثيد وإشراف على المشاريع . ويضمن لكل إدارة إستبانة واحدة فقط .	
٣- تمباريط ومطلعات مستخدمة في : إستبانة :-	
النظام شامل مقتربات الحكومة ولا تحت التثديذ (١٣٩٧هـ) :	
مواد تهدف إلى تثديذ إجراءات التثديذ المتعاقبة مع الإدارة الحكومية وإبهاج الطراغ : لاساسية لتثديذ : لالعمال .	
٤- عقد : لالعمال العامة (الموحد) :	
عقد : لالعمال موحد : مدر بموجب لقرار مجلس الوزراء عام ١٤١٨هـ ، وتهدف مواء إلى تثديذ جميع المشاكل التي كانت دائما تواجه مختلف بئس الممارول وإدارة . كما جمع الكثير من التعاميم والطراغات والتعليقات المتفرقة ليطلق الممول الملتزم .	
٥- النظام العالي (المثديذ) :	
الإجراءات المثبة حاليا : لإختيار الممارول ولقرعند تثديذ : لالعمال بموجب نظام شامل مقتربات الحكومة ولا تحت التثديذ	
وعقد : لالعمال العامة .	

الموضوع	النظام الحالي (المتبع حالياً)	النظام المقترح
١- ضمان الإبتدائي	١٠% من قيمة العطاء المقدم ويكون ساري المفعول إلى التاريخ المحدد لبيت في العروض	() ٥٠% من قيمة العطاء () ١٠% من قيمة العطاء () حسب المتبع حالياً أخرى (حدد)
٢- تأهيل المتقدمين	أن تكون قيمة العطاء في حدود المبالغ المحدد بها المتقدمين أو أقل ، ويتم إستبعاد المتقدمين الذين مؤهل أكثرهم ضمن الشروط أي أن التأهيل بعد تقديم العروض	() التأهيل قبل تقديم العروض () استبعاد المتقدمين () حسب المتبع حالياً أخرى (حدد)
٣- اجتماع ما قبل تقديم العروض	غير مطلوب	() يكون بطلب الجهة صاحبة المشروع قبل عشرة أيام من فتح المقاربات () يكون بطلب الجهة صاحبة المشروع وإستبعاد من لم يحضر من المتقدمين () اجتماع ما قبل تقديم العروض ليس ذو أهمية أخرى (حدد)
٤- ترسية العقد	على الأقل المقراءات المستخدمة والمستوفية للشروط النظامية	() الترسية على ثاني أقل المقراءات () الترسية على أول عطاء أقل من المتوسط الحسابي (إجمالي قيمة المقراءات ملازمة على عددها) () يفتح بروتوكول قيمة تقديريا للمشروع ، والترسية على أول عطاء أقل من القيمة التقديرية () حسب المتبع حالياً أخرى (حدد)

العنوان	النظام الأساسي (المستجيب حاليًا)	النظام المقترح
١- اجتماع مالميل التنظيم	اجتماع مالميل التنظيم مطلب	<p>() يكون إلزاميًا</p> <p>() إلزاميًا</p> <p>() غير مطلوب لعدم أهميته</p> <p>أخرى (حدد)</p>
٢- الضمان النهائي	٥٠٪ من قيمة العقد تقدم على شكل ضمان بشكل ساري المفعول طول مدة العقد، أما إذا كان من إحدى شركات التأمين فيجب ألا يقل عن ٢٥٪ من قيمة العقد	<p>() ١٠٪ من قيمة العقد على شكل ضمان بنكي</p> <p>() ٢٠٪ من قيمة العقد على شكل ضمان بنكي</p> <p>() ٥٠٪ من قيمة العقد على شكل ضمان بنكي</p> <p>() ١٠٠٪ من قيمة العقد على شكل ضمان بنكي</p> <p>() ١٠٠٪ من قيمة العقد على شكل ضمان بنكي أو بوليصة تأمين</p> <p>() حسب المستجيب حاليًا</p> <p>أخرى (حدد)</p>
٣- ضمان المقادير على الدفع (للمواد والعمالة)	غير مطلوب	<p>() ضمان المقادير على الدفع للمواد والعمالة غير مطلوب لعدم أهميته</p> <p>() ضروري ويجب أن يحدد مع الضمان النهائي وينظم النسبة</p> <p>() ضروري ويجب أن يحدد بنسبة معينة عن الضمان النهائي</p> <p>أخرى (حدد)</p>
٤- الدفعة المقدمة	١- القيمة يجوز للجهة الحكومية أن تدفع للمقاول من استحقاقه في حدود ١٠٪ من قيمة العقد عند توقيع العقد، مقابل خطاب ضمان مسبق لهذه القيمة وتضمن هذه الدفعة من المستحقات الشهرية.	<p>() تتلزم الجهة الإدارية بدفعها حسب حجم المشاريع :-</p> <p>- ٢٠٪ للمشاريع > ١٠٠ مليون ريال</p> <p>- ١٥٪ للمشاريع < ١٠٠ مليون > ٥٠٠ مليون ريال</p> <p>- ١٠٪ للمشاريع < ٥٠٠ مليون > ١٠٠٠ مليون ريال</p> <p>- ٥٪ للمشاريع < ١٠٠٠ مليون ريال</p> <p>- تتلزم أكر (حدد)</p> <p>() تتلزم الجهة الإدارية بدفع نسبة ٢٠٪ من قيمة العقد</p> <p>() تتلزم الجهة الإدارية بدفع نسبة ٢٠٪ من قيمة العقد للمقاولين الوطنيين ونسبة ١٠٪ من قيمة العقد للمقاولين الأجانب</p> <p>() السداد الدفعة المقدمة</p> <p>() حسب المستجيب حاليًا</p> <p>أخرى (حدد)</p>
٥- توقيت الدفع	تدفع للمقاول عند توقيع العقد	<p>() تدفع بعد فترة التنفيذ (الشهرين)</p> <p>() في أي وقت بعد توقيع العقد حسب طلب وحاجة المقاول</p> <p>() تنقسم لجزأين، ٥٠٪ تدفع بعد توقيع العقد و ١٠٪ تدفع بعد تنفيذ نصف المشروع و عليهما يكون مرئيا</p> <p>() حسب المستجيب حاليًا</p> <p>أخرى (حدد)</p>

٦- الدفوعات (المستحقات)

١٠٠ من الجمل العائد .

()	الإحتفاظ بنسبة ١٠٪ من كل لسط	()
()	الإحتفاظ بنسبة ١٠٪ من كل لسط بإضافة الس اللسط لاغير	()
()	الإحتفاظ بنسبة ١٠٪ من كل لسط حتى تتلبد نمد المشروع وأن كان	()
()	مرفقاً تدفع ٥٠٪ من المبالغ المستحقة والإستمرار بإحتفاظ بنسبة	()
()	محض تسليم المشروع.	()
()	الإحتفاظ بنسبة ١٠٪ من كل لسط حتى تتلبد نمد المشروع وإن كان	()
()	مرفقاً، تدفع المبالغ المستحقة وإ إكتفاء باللسط الأخير.	()
()	الإحتفاظ بنسبة ٥٠٪ من كل لسط	()
()	الإحتفاظ بنسبة ٥٠٪ من كل لسط بإضافة الس اللسط لاغير	()
()	عدم الإحتفاظ بأي نسبة	()
()	حسب المتبع حالياً	()

الحرى (معد)

٧- أوامر التطهير

وإن تخلصها في حدود ٢٠% من القيمة المضافة وليس لتغطية نفقات مشروعها ماحلة المشروع أن تنجز

()		حساب المجموع حالها	(+) (-) (%)	الحزبي (خلافه)	%
()	-	التيمة		
()	+1%	من			
()	-1%	من			
()	+1%	في القيمة			
()		المعدل			

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() جميع الامور الغير متعلقة بالمدى الى مدة العقد ويحدد تبعاً لذلك
 () حسب التوزيع حالياً

الحري (عدد)

العنوان	النظام المقترح	النظام الحالي (المقترح حالياً)
٨- غرامات التأخير		<p>إذا تأخر المفاوض عن إتمام العمل وتسليمه كاملاً في المواعيد المحددة، يلتزم بما يلي:</p> <p>أ- غرامة بـ ١٠٠ ريال متروك التكلفة اليومية عن كل يوم تأخير حتى تبلغ أكثر المدفوعات ١٥ يوماً أو ٥٠ من مدة العقد.</p> <p>ب- غرامة بـ ٢٠ ريال لمدة متوسط التكلفة اليومية عن كل يوم تأخير حتى تبلغ الجزء الأكثر المدفوعات ٣٠ يوماً أو ١٠٠ من مدة العقد.</p> <p>ج- غرامة بـ ١٠٠ ريال كامل متوسط التكلفة اليومية عن كل يوم تأخير شال لأكثر المدفوعات (ب). لا يجوز تجاوز ١٠٪ من قيمة العقد.</p> <p>- إذا كان الجزء المتأخر لا يبلغ إلا ١٠٪ بالعمل، فلا تتجاوز مجموع الغرامات نسبة ١٠٪ من قيمة الأعمال المتأخرة.</p>
٩- التأمين أ - على المشروع ومكوناته		<p>يلتزم المفاوض عند توقيع أي عقد تاريخه قيمته عن خمسة ملايين ريال بأن يلتزم إلى الجهة الحكومية بترسية التأمينات اللازمة التي تليق بقيامه بالتأمينات على المشروع ومكوناته الأساسية المتضمنة التحليل وحتى التسليم، إلا بدائتي للمشروع من قبل شركة تأمين وطنية.</p> <p>(المادة ٥/١٢ من عقد الاشتغال العامة)</p>
٣- العمالة		<p>يُدفع المفاوض للمؤسسة العامة للتأمينات الإجتماعية ما نسبته ٢٪ من راتب العامل وظروف المؤسسة بتسويبه العام - من الإجازة والعمر والوفاء.</p>
٥- التأمين العمري		<p>يلتزم المفاوض بإحداث من تخدم كسبي أو جزئي لما يشاء خلال عشر سنوات مسجل تاريخ التسليم، إلا بدائتي للجهة صاحبة المشروع.</p>

٧- لا يلائم بنسبات الدول الأخرى في إعداد العقود له فائدة كبيرة إنشاء أعداد وشاش العقود في المملكة.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	١- مواد نظام تأمين مشتريات الحكومة ولائحته التنفيذية ذات العلاقة بمطروح التشديد وأما ولا يوجد بها أي طموح أو إلتباس.
٨- مستندات المقاولين تدفع غالباً في أوقاتها.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	٢- بمطروح مواد النظام ولائحته التنفيذية ذات العلاقة بمطروح التشديد تحتاج إلى تطوير لعدم فعاليتها.
٩- الإجراءات المالية لسرف مستندات المقاولين سهلة وميسرة.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	٣- إصدار كتب النظام ولائحته التنفيذية بنوعياً وتوزيعه على جميع الجهات الحكومية ذات العلاقة بأعمال التشديد وتوزيعه فائدة كبيرة في إدارة العقد.
١٠- تأجيل دفع جزء من مستندات المقاول في حالة نقص بعض الأقران النظامية المكتملة لإجراءات الدفع بدلاً من كامل الدفعة يوقر للمقاول سهولة اللازمة لتنفيذ العقد.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	٤- تعديل النظام ولائحته التنفيذية على شكل مواد وفترات فقط وبطريقة لا تشجع ضمنين التأمين المتأخرين من الجهات المعنية أو لا تلتزم الواردة لوزارة المالية وإجابتها، يحصل على تنظيهم وتبسيط واختصار النظام ولائحته التنفيذية.
١١- تمويل المقاولين المتأخرين من أجل مستقاتهم بدون مبرر.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	٥- عقد لا يفسال المسامحة (المسود) والصح ولا يوجد به أي طموح أو إلتباس.
١٢- تدوير المقاولين المتأخرين مع الجهات الحكومية على إستخدام وتطبيق هندسة القيمة في المشاريع الكبيرة.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	٦- إطلب المشاكل والمسؤوليات إلتساء إدارة المطروح شائلاً عن طموح وإلتباس والمطور في مطروح مواد عقد الإلتصال العامة (المسود).
١٣- الجهات الحكومية تشترط بتدوير المقاررات الخاصة بتفصيل إستخدام المنتجات الوطنية إنشاء تنفيذ العقد.	() أوافق بشده	() أوافق بشده	() لا أوافق بشده	() لا أوافق بشده	

٢٠- إنشاء إدارة واحدة للتخطيط المبني بين الإدارات المعنية كالبطنية والكهرباء والهاتف ومصلحة المياه والمعروف المني وغيرها بزيول الكثير من المطالبات التي تعترض المفاوض أثناء تنفيذ العقد .	() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	١٤- غياب التخطيط المناسب لتخطيط القرارات العامة بتخفيض استخدام المنتجات الوطنية أثناء تنفيذ العقد يساهم في عدم فعاليتها .
٢١- إنشاء برنامج تنافس لتهيئة الحكومة لموظفيها عن إدارة عقود التخطيط . حيث يتم دراسة وظائف العقود ومناقشة وتشرح الإجراءات المالية وإدارية والخطية على ضوء نظام تامين مشتريات الحكومة ، له فائدة كبيرة في إدارة العقد .	() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	١٥- الشركات الأجنبية العاملة في المملكة لا تحترم بالتخازل عن تنفيذ نسبة ال ٣٠ % للمواطنين الوطنيين التي فلتحتها الدولة لهم .
٢٢- إصدار دليل نموذجي ومحدد لإدارة عقود التخطيط سيمثل على تنظيم وتبسيط الإجراءات المالية وإدارية والخطية لتخطيط العقد .	() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	١٦- إلزام المقاول بتوظيف ما نسبته ١٠ % كحد أدنى من طينى و إداريسى المقروع من السعوديين .
() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	١٧- إلزام المقاول بتقديم برنامج مفصل عن مرالطة وليلة اليهود أثناء تنفيذ العقد قبل البدء في التخطيط فلول لإدارة العقد بطريقة منظمة ومنظمة وحسب المواصفات المطلوبة .
() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	١٨- إلزام المقاول بتقديم خطة لسلامة أعمال التشغيل تناسب المقروع ومكوناته بوافق عليها المهندس المقروع من المتطلبات الأساسية للسلامة .
() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	١٩- إنشاء إدارة لسلامة أعمال التشغيل تكون مخصصة بالتفتيش على المقاولين المتعاملين مع الجهات الحكومية مطلب اساسي للسلامة .
() اوافق بشده	() اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	() لا اوافق بشده	

مسمى الوطنية :

فكرا لك على متحنا جزء من وقتك

نرجو إعادة لاجوبه على العنوان التالي:-

د. عبد العزيز بن عبد الرحمن بنويشيت
جامعة الملك فهد للبترول والمعادن
كلية كسابم البشة
برنامج خدمة وإدارة التشغيل
الطهران ٣١٦٦١

Indicate your opinion for the following proposed practice statements by (✓) or by writing in the space provided:

A. BIDDING PHASE

Titles	Current Practice	Proposed Practice
1. Bid bond (preliminary guarantee)	1% of the bid total sum until the contract award (max. 3 months).	<input type="checkbox"/> 5% <input type="checkbox"/> 10% <input type="checkbox"/> Current Practice Others (Specify)
2. Bidders' qualification.	During bid evaluation the disqualified bidder is disregarded	<input type="checkbox"/> Current practice <input type="checkbox"/> Pre bid qualification <input type="checkbox"/> Double - Envelope System Others (specify)
3. Pre-bid conference	Not required	<input type="checkbox"/> At C.O.C. in the project area ten days prior to opening and whoever does not attend, will be excluded from bidding. <input type="checkbox"/> Current practice Others (specify)
4. Contract award	To the lowest responsive bidder.	<input type="checkbox"/> The lowest responsive bidder <input type="checkbox"/> The second lowest <input type="checkbox"/> Disregard the highest and the lowest and award to the closest to average <input type="checkbox"/> A project estimate recommended, and awarded to the closest to the estimate <input type="checkbox"/> Current practice Others (specify)

B. CONSTRUCTION PHASE

Titles	Current Practice	Proposed Practice
1. Pre-construction conference	Not Required	<input type="checkbox"/> Shall be mandatory to establish acceptable ground rules for communication and coordination between all parties concerned and recorded as the first meeting. <input type="checkbox"/> Not Required Others (specify)
2. Performance bond	5% of the total contract value in bank guarantee terminate at the final acceptance. If from insurance company, not less than 25% of contract.	<input type="checkbox"/> Current practice <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 50% <input type="checkbox"/> 100% Others (specify)
3. Labour and Material bond.	Not Required	<input type="checkbox"/> Not Required <input type="checkbox"/> Issue simultaneously with performance bond and carry the same percentage <input type="checkbox"/> Issue simultaneously with performance bond but carry different percentage Others (specify)
4. Advance payment	The Employer is allowed, not mandatory, to pay the contractor advance payment of 10% at maximum of the contract value.	<input type="checkbox"/> Should be varied depending on contract size: a. 20% - Projects <100 Millions b. 15% - Projects >100 < 500 M. c. 10% - Projects > 500 <1000 M. d. 5% - Projects >1000 Millions e. Other arrangements (specify) <input type="checkbox"/> Current practice <input type="checkbox"/> 20% of the bid price <input type="checkbox"/> Nothing Others (specify)

Titles	Current Practice	Proposed Practice
	Paid to the contractor following contract award	<input type="checkbox"/> Should be paid after mobilization <input type="checkbox"/> Current practice <input type="checkbox"/> Any time during construction <input type="checkbox"/> Split into two halves, 50% paid after award, the other 50% paid when the project's first half is completed, if satisfactory Other (specify)
5. Differing site conditions	The contractor takes the responsibility, cost and time of unknown physical condition at the site. In case of unusual difficulties that any experienced contractor could not have logically anticipated, he may claim additional cost.	<input type="checkbox"/> Inclusion of changed clause:- Unknown physical conditions at site differing materially from those ordinarily encountered and inhering in the work provided for in the contract causing an increase or decrease in the cost or time: an equitable adjustment shall be made and the contract modified in writing. <input type="checkbox"/> Comprehensive site investigation report by the Employer <input type="checkbox"/> Interpretive reports by the Employer <input type="checkbox"/> Current practice Others (specify)
6. Change Orders (C.O.)	The contract to increase not exceeding 10% and to decrease not exceeding 20%	<input type="checkbox"/> + 20%, -20% <input type="checkbox"/> + 30%, - 20% <input type="checkbox"/> + 50% <input type="checkbox"/> Current practice Others (specify) + (%) - (%)
	Limited to changes not requiring an extension in the time for completion	<input type="checkbox"/> Current practice <input type="checkbox"/> Change orders should have an agreed period that will be a basis for time extension Others (specify)

Titles	Current Practice	Proposed Practice
7. Payments: a. Retainage	Pay 100% and defer the last payment, but not less than 10% of the contract value.	<input type="checkbox"/> Pay 90% and hold 10% for each partial payment and keep the last payment until all work is preliminarily delivered. <input type="checkbox"/> Current practice <input type="checkbox"/> Hold 10% of each payment till end <input type="checkbox"/> Hold 10% until the project first half completion. If satisfactory release 5% of all retainage and hold 5% until completion <input type="checkbox"/> Same as above but hold nothing except the last payment <input type="checkbox"/> Hold 5% of each payment till end <input type="checkbox"/> No retainage Others (specify)
8. Penalty of delay (P.D.)	Calculate methods on the basis of the average daily cost of the project by: Average daily cost value of contract $AV = \frac{\text{total duration}}{\text{total duration}}$ 1. P.D.= 1/4 A.V *(1 to 15 days/or 5% of contract duration (C.D.) the higher days govern). 2. P.D.= 1/2 A.V. *(16 to 30 days/or 10% of C.D. the higher govern) 3. P.D.= AV * > 30 days but not exceeding 10% of the contract value	<input type="checkbox"/> Current practice <input type="checkbox"/> Using the current method but not limiting to 10% max. <input type="checkbox"/> Max. 10% penalty but disperse to 25% of C.D. with low penalty at the begining and increase rapidly at the end of the time provided <input type="checkbox"/> In addition to 10% above another 5% penalty applied for the exceeded time provided (>25% of Contract duration) Others (specify)

Titles	Current Practice	Proposed Practice
9. Insurance a. Project	Contract which value exceeds five Million Rials, requires an insurance policy that covers the project and its basic components up to the date of hand over by means of a National Insurance company	() Contractor's all risk and public liability insurance policy that covers all project components and expected risks is to be used with all public construction contracts () All risks and public liability policy provided by the Employer. () Current practice Others (specify)
b. Workmen	The contractor pays monthly the General Organization of Social Insurance (G.O.S.I) 2% of the workman salary. GOSI compensates the workman in case of injury disability and death.	() Workmen's compensation insurance policy which covers the obligations of the contractor to provide its injured workmen with all benefits as may be required by law. () Self-insurer if the contractor can provide satisfactory evidence of its financial ability to do so () Current practice Others (specify)
c. Structure	The contractor assures the structure of the construction project for ten years from the date of handover to the Employer	() Insurance policy covers the structure and the third party liability for ten years () Current practice (No policy required) Others (specify)

C. CONTRACT ADMINISTRATION:

- 1- GPLR articles, related to construction contract have no shortcomings, ambiguities and contradictions.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 2- Evaluation, revision and/or modification of some of the current GPLR articles, related to construction contract, are needed.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 3- Ministry of Finance should issue annual updated GPLR manual and to be distributed to all competent Government Departments .

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 4- GPLR should be revised to contain only articles and sub-articles. All subsequent directives and explanatory circulars should be sub-articled under the corresponding articles.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 5- The standard public works contract is complete, clear and has no shortcomings, ambiguities and contradictions.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 6- Most of the problems arising during contract administration are due to vagueness and impracticality in particular due to construction contract clauses.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 7- Use the others experience, i.e. the U.S.A., during the development of the construction contract documents in the Kingdom.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 8- Contractor's monthly payments paid on time.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

- 9- The procedures of processing the contractor's monthly payments are easy.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 10- The Employer should cut back on the amounts paid on contractor's requisitions, rather than hold up the entire payment in case of inadequate invoice preparation.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 11- The Employer reimburses the contractor for any extra expense caused by delay in payment by the Employer.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 12- Encouraging contractors, by incentives, to use Value-engineering on large Projects.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 13- Public Agencies abide laws requiring the contractors to use local products only.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 14- The absence of the right tool to implement the law that requires the contractors to use local products only during the execution of the contract.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 15- The foreign contractors don't abide to assign the 30% of the works to Saudi contractors that law requires.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 16- Forcing the contractors to employ 10% of the contract Administrative and Technical staff by Saudis.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
- 17- QC/QA program should be submitted by the contractor before mobilization.
- ☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

18- Contractor develop his own accident prevention plan that fits its own particular situation and approved by the Employer.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

19- Establishing a "Safety Department" to assure that the contractor is in full compliance with all aspects of the contract safety requirement.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

20- Establishing a "Coordination Department" to pre-coordinate between competent Government Agencies such as Municipality, SECECO, PTT, Water & Sewage Org. and others where all project obstacles are eliminated before letting out projects for bidding.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

21- Initiation of an in-house program by Government Departments on construction contract administration to all concerned Engineers and contract administrators, where GPLR articles are introduced and discussed, as well as the construction contract documents.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

22- Development of a Standard Construction Contract Administration Manual through the establishment of procedural information on how to administer the contract from tendering till contract close out and to be used by all parties involved in contract execution and administration.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

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